Clinical Protocols

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ABDOMINAL PAIN

I. General Considerations

A. The causes of abdominal pain are many and varied and may ultimately have nothing to do with the abdomen (e.g., heart attack, pneumonia, etc).
B. In general, the patient should receive nothing by mouth.
C. Patients who complain of sudden onset of abdominal pain, especially if it is described as tearing or radiating, should be transported without delay.

II. History

Perform a focused history and physical exam with particular attention to:

A. Ask the patient to describe the pain:
   What was the patient doing when the pain started?
   What makes it better or worse?
   What does it feel like?
   Where is the pain? Does it go anywhere?
   How bad is it?
   When did it start? Does it come and go?
B. Has the patient ever had the pain before?
C. When did the patient last eat? What was it?
D. When was the last bowel movement? Was there any blood or black material in it?
E. Has the patient vomited? Was there blood or coffee ground material present?
F. What other symptoms has the patient noted (fever, chest pain, nausea, trouble breathing)?
G. Is there any history of trauma?
H. If the patient is female:
   1. Determine when the last menstrual period was.
   2. Have menstrual periods been regular?
   3. Has there been any vaginal bleeding?
I. Is there any other relevant past medical history?
J. Has the patient had any surgeries on the abdomen?
K. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam with particular attention to observing and gently palpating the abdomen.

IV. Treatment

{If hypotension or other signs of shock are noted, follow hypotension protocol}
{If trauma is noted, follow appropriate protocol where indicated}

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.
C. Maintain the patient NPO (nothing by mouth).
D. Allow the patient to assume a position of comfort.
E. If bowel is protruding, do not attempt to replace it. Cover the bowel with a moist, sterile dressing.

Intermediate

F. Secure IV access.

Paramedic

G. Assess and monitor the cardiac rhythm; treat arrythmias/dysrythmias per applicable protocols.

H. Consider use of narcotic pain management of medical direction's choice.

ALTERED LEVEL OF CONSCIOUSNESS (coma, stroke, unconsciousness, non-traumatic)

I. General Considerations

A. Provide the basic ABCs:
   1. Provide and maintain an adequate airway; adequate ventilation is of prime importance.
   2. Anticipate and avoid aspiration.
B. Take steps to correct hypoxia as soon as possible.
C. Hypoglycemia may present as abnormal neurological findings or coma.
D. Naloxone (Narcan®) is useful in reversing narcotic-induced mental status changes and is a benign drug best administered slowly until there is improvement in the respiratory pattern. Full consciousness is not the goal.
E. Naloxone (Narcan®) may cause withdrawal symptoms in chemically dependent persons. Personal protection for the health care team is emphasized. Despite this consideration, it should still be used where respiratory depression and pinpoint pupils are present.
F. Mental status may fluctuate and may deteriorate. Close observation and monitoring are required. Be prepared to manage a deteriorating patient.
G. Assume spinal injury if trauma cannot be excluded.
H. Do not delay transport unnecessarily.
I. If several people have similar complaints, suspect an environmental cause.
J. If possible, obtain and report blood pressures in both arms.

II. History

Perform a focused history and physical exam with particular attention to:

A. When was the patient last completely well?
B. Determine the onset, progression and duration of symptoms.
C. What signs and symptoms were present before the change in level of consciousness (e.g., headaches, seizures, confusion, trouble breathing, fever/chills?)
D. Obtain a past medical history, including alcohol abuse, diabetes, epilepsy, hypertension.
E. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?
F. Is there a history of head trauma?
G. Has the patient noted any chest pain, dyspnea or irregular heartbeat?
H. Has the patient been incontinent?

III. Physical Examination

A. Perform an initial assessment.
B. Perform a focused history and physical exam with particular attention to:
   1. Skin
      (a) Is the patient sweaty?
      (b) Is the skin hot or cold?
      (c) What is the skin color?
   2. Assess patient from head to toe for injuries:
      (a) Is there any bruising?
      (b) Is there any evidence of head or neck trauma?
C. Assess the level of consciousness.

D. Assess the patient's neurological condition.
   1. Check pupils for size, symmetry, reactivity.
   2. Assess motor function. Is the patient moving all four extremities? Is there equal grip strength? Is there posturing?
   3. Is sensation to touch intact in all four extremities?
   4. What is the last thing the patient can recall?

E. Are there signs of trauma which might have caused altered mental status/coma (e.g., head trauma, hematomas, Raccoon eyes, Battle's sign)?

F. Are there other injuries, e.g., hip or wrist injury from a fall?

G. Is there an unusual breath odor, e.g., alcohol, fruity/acetone)?

H. Is there evidence of chemical use, e.g., needle tracks, runny nose?

I. Inspect the surroundings
   1. Check for pill bottles, syringes, etc. (bring them with the patient).
   2. Note any odor in the house, unvented heaters, etc. (carbon monoxide is odorless).

J. At the discretion of local medical direction, a specific prehospital stroke assessment may be made.

IV. Treatment

{If acute arrhythmia/dysrhythmia, follow appropriate **arrhythmia/dysrhythmia protocols**.}
{If shock is present, follow **hypotension protocol**.}
{If trauma noted, follow appropriate protocol where indicated.}
{If the patient has diabetes, follow **diabetic emergencies protocol**.}

Basic

A. Establish an airway, maintain as indicated, suction as needed; assist ventilations as indicated.

B. Administer high concentration oxygen.

C. Transport the patient in the coma/recovery position (if trauma is suspected, transport supine with cervical collar and backboard).

Intermediate

D. If the patient is **in respiratory arrest,** perform advanced airway management**.**

E. Secure IV access. Obtain blood specimen for glucose determination at the hospital if the receiving hospital desires it.

F. Perform capillary blood glucose determination.

G. *If patient's blood glucose level is <80 mg/dl, administer dextrose 50% 25 gm IV in a secure vein for an adult* (standing order for paramedics) *or 0.5 - 1 gm/kg for a child.*

H. *Unless patient responded to dextrose administration, contact medical direction for an order to administer 2 mg of naloxone intravenously or intranasally to an adult* (standing order for paramedics), *0.01 mg/kg for a child.*

I. ▲ *Administer thiamine 100 mg IV if dextrose is to be administered.*

J. ▲ *If IV access cannot be secured and the patient's blood glucose level is <80 mg/dl, administer 1 mg glucagon IM.*

ALTERED LEVEL OF CONSCIOUSNESS (coma, stroke, unconsciousness, non-traumatic)

Paramedic

K. Secure advanced airway if indicated.

L. Assess and monitor cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocol.

AMPUTATIONS & DENTAL AVULSIONS

I. General Considerations

A. Amputated parts can sometimes be reattached. Even if they cannot, tissue from them may be useful.
B. Bleeding control and shock management are the primary concerns.
C. Consider splinting the injured limb.
D. Give the patient nothing by mouth.
E. Tourniquets are rarely needed to control bleeding.
F. Do not complete a partial amputation.

II. History

Perform a focused history and physical exam with particular attention to:

A. Obtain the history of the event:
   1. How did the injury occur?
   2. Was the part cut by a sharp or dull instrument or torn/crushed?
   3. Is the injury relatively clean or dirty?
   4. When did the injury occur?
   5. How much blood was lost?
   6. Is blood spurting or oozing?
   7. If the injury is a partial amputation, is there numbness, tingling, or loss of sensation?
B. Are there any associated injuries?
C. Obtain the patient's past medical history
D. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam.

IV. Treatment

{If other conditions are present, follow the appropriate protocol(s).}

Basic

A. Control bleeding by direct pressure using sterile dressings.
B. Administer high concentration oxygen.
C. Splint the affected part as needed.
D. In the case of soft tissue amputations: put the severed part in a moistened sterile dressing. Place it in a plastic bag and put it on ice or a cold pack. For dental avulsions, attempt to recover the tooth. Transport in milk, if possible, or as previously described.

Intermediate/ Paramedic

E. Secure IV access.

Paramedic

F. Consider use of nitrous oxide or narcotic pain management of medical direction’s choice.

ANAPHYLAXIS
(Allergic Reaction)

I. General Considerations

A. Anaphylaxis is an apparent exposure to an allergen AND one or more of the following: severe respiratory distress; airway compromise/impending airway compromise (wheezing, swelling of the lips/tongue, throat tightness); signs of shock (including systolic BP <90).
B. Patients can present with anaphylaxis without a prior history of allergy.
C. Anaphylaxis can be caused by stings, ingestion, or contact with materials to which the patient is sensitive.
D. Wheezing may be caused by anaphylaxis but is not the only sign.
E. Do not delay transport for other than epinephrine administration.

II. History

Perform a focused history and physical exam with particular attention to:

A. What was the patient exposed to?
   1. Was it an ingestion? Was it a food or drug?
   2. Was it a sting? Where?
   3. How long ago was the exposure?
B. History of allergy:
   1. What is the patient allergic to?
   2. What reaction has the patient had in the past and is it like this reaction?
   3. Has the patient received any medication prior to your arrival? (e.g., Benadryl®, epinephrine).
   4. Does the patient have a prescription for an epinephrine auto-injector (e.g. Epi-pen®)
C. Obtain a medical history with particular attention to:
   1. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?
   2. What medical problems does the patient have? (e.g., heart or lung problems?)
D. What were the patient's first symptoms/complaints?
E. Was or is the patient short of breath?
F. Has the patient noted any rash or hives?
G. Does the patient have any abdominal complaints?
H. If the patient is unconscious, how long has it been? Has the patient vomited?

III. Physical Examination

A. Perform an initial assessment with particular attention to:
   1. Are there any signs of respiratory difficulty?
   2. Assess the adequacy of respirations.
      (a) Is the patient using accessory muscles?
      (b) Is the patient wheezing?
B. Perform a focused history and physical exam with particular attention to:
   1. Skin:
      (a) Is there evidence of an envenomation or a sting if indicated? Is the stinger still present.
      (b) Examine the skin for a rash or hives.

(c) Is there evidence of poor perfusion?
(1) is there cyanosis?
(2) is there delayed capillary refill?
(3) is there a change in mental status?
(d) Is there any facial swelling?

C. Assess the level of consciousness.

IV. Treatment

Basic

A. If the patient is without pulse or respirations, initiate CPR and treat for cardiac arrest.
B. Establish an airway, maintain as indicated, suction as needed.
C. Administer high concentration oxygen.
D. Remove any visible stinger material.
E. ***For EMT-Bs-*** *If the patient has a prescription for an auto-injector epinephrine device (e.g. Epi-pen® or Epi-Pen Jr.®),* *has it available, and the patient has any of the following*:
1. unconsciousness and a weak pulse, with a known history of allergy and suspected or confirmed exposure to allergen;
2. marked respiratory distress with a history of allergy; then seek on-line medical direction for an order to administer the epinephrine.
F. Consider Paramedic-level intercept if available.

Intermediate

G. If the patient has any of the above and has not already received epinephrine, *seek on-line direction for administration of epinephrine:* adults 1:1000 epinephrine 0.3 cc - 0.5 cc SQ; children 1:1000 epinephrine 0.01 cc/kg to a maximum dose of 0.4 cc SQ. (Standing order for paramedics) or use an auto-injector.
H. Secure IV access.
I. Consider seeking on-line medical direction for administration of albuterol.

Paramedic

J. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.
K. *Consider seeking on-line direction for administration of 1 cc to 5 ccs of epinephrine, 1:10,000* IV, *for the unconscious patient*.
L. *Seek on-line direction to administer diphenhydramine (Benadryl®) 50 mg IV for an adult or 1-2 mg/kg IV for a child.*
M. *Consider seeking on-line medical direction for the administration of methylprednisolone 1mg/kg intravenously.*

ARRHYTHMIAS/ DYSRHYTHMIAS

I. General Considerations

A. Most deaths from arrhythmias occur within 1 to 2 hours from onset of symptoms of acute myocardial infarction.
B. If arrhythmia is associated with myocardial infarction, then the priority for treatment is thrombolytics or other in-hospital interventions; thus, time is critical.
C. Arrhythmias in patients with symptoms of acute MI must be treated more vigorously than asymptomatic patients.
D. Arrhythmias may be benign (not life threatening). Treat the patient, not the arrhythmia.
E. If there is evidence of decreased cerebral perfusion, immediate and appropriate treatment is needed.
F. Supraventricular and ventricular tachycardias are very difficult to differentiate at times. If there is a question and perfusion is poor, treat as though it is ventricular tachycardia. This will not harm the patient.
G. If the patient is perfusing adequately, no emergency treatment is needed. This is true of bradyarrhythmias as well as tachyarrhythmias.
H. If the patient is unconscious and pulses are not palpable, begin CPR.

II. History

Perform a focused history and physical exam with particular attention to:

A. Determine the onset, progression and duration of symptoms.
B. Is there co-existing chest pain, trouble breathing, nausea, vomiting, dizziness, loss of consciousness, palpitations or confusion? (If so, see appropriate protocol.)
C. Is there a history of trauma, especially chest trauma?
D. What was the patient doing immediately before and as the symptoms developed?
E. Has the patient ever experienced an episode like this before and if so, what was the cause and what treatment was effective?
F. Obtain the past medical history, including alcohol use, diabetes, hypertension, heart disease, lung disease, thyroid disease, kidney disease.
G. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?
H. Has the patient used any illicit medications?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam with particular attention to:
    1. Is the patient sweaty?
    2. Is the skin cool, clammy, pale in appearance?
    3. Is there peripheral edema?
    4. Is there neck vein distention?
    5. Is there evidence of chemical use, needle tracks, "runny nose"?
C. Assess the patient's neurological condition.
D. Inspect the surroundings.

Paramedic

E. Assess the cardiac rhythm.

IV. Treatment

{If trauma is present, follow the appropriate protocol}
{If the patient is pulseless, see the **cardiac arrest protocol**}

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.
C. Place the patient in a position of comfort.
D. If cardiac arrest is present, use the AED according to the cardiac arrest protocol.

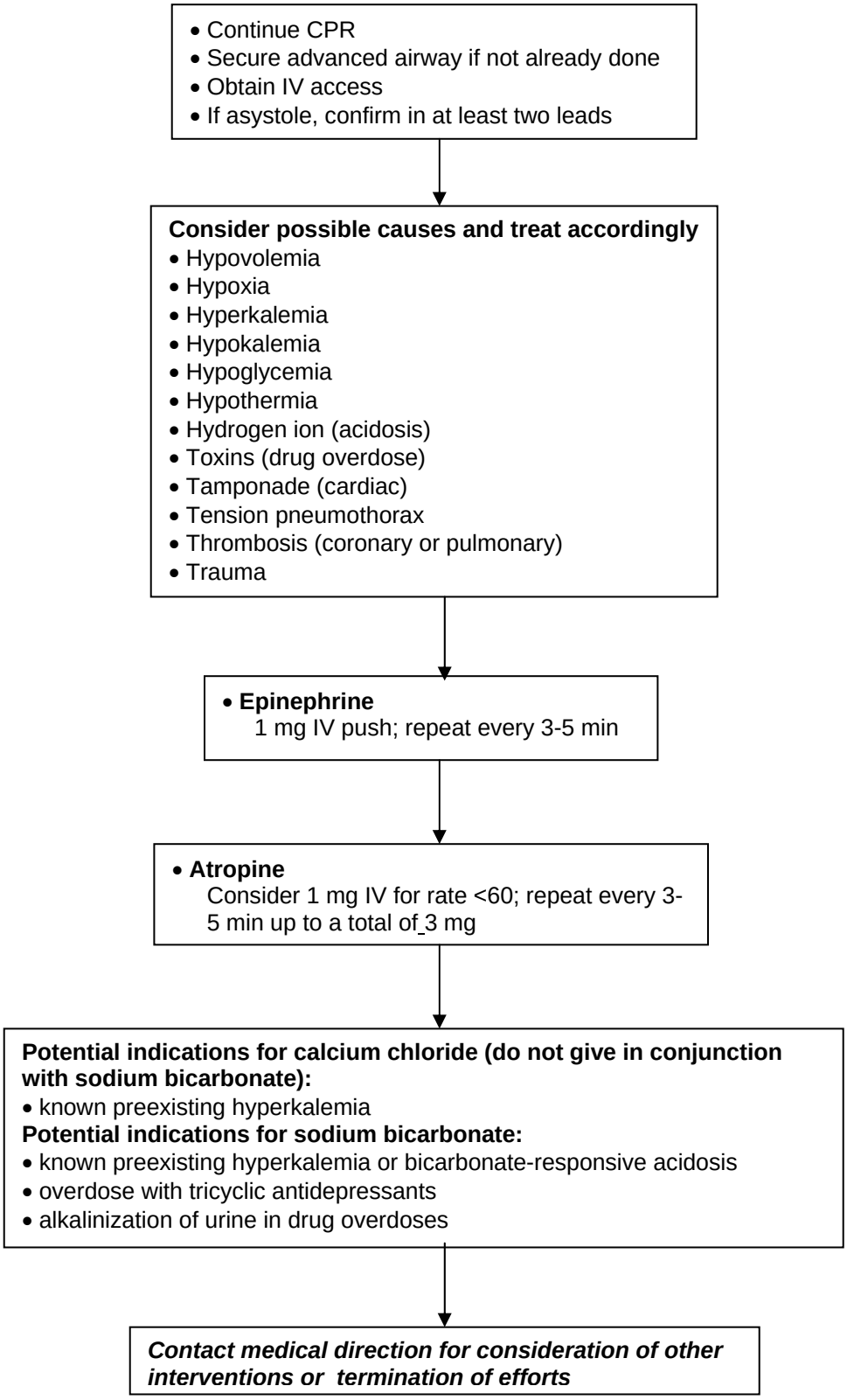
Intermediate

E. **If** the patient is **in respiratory arrest,** perform advanced airway management.
F. Establish IV access.

Paramedic

G. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.
H. Treat arrythmias in accordance with current practices. The following algorithms outline acceptable approaches to the management of various arrhythmias. There is no implied preference for order of drug administration unless specifically described.

Asystole and Pulseless Electrical Activity (PEA) Algorithm



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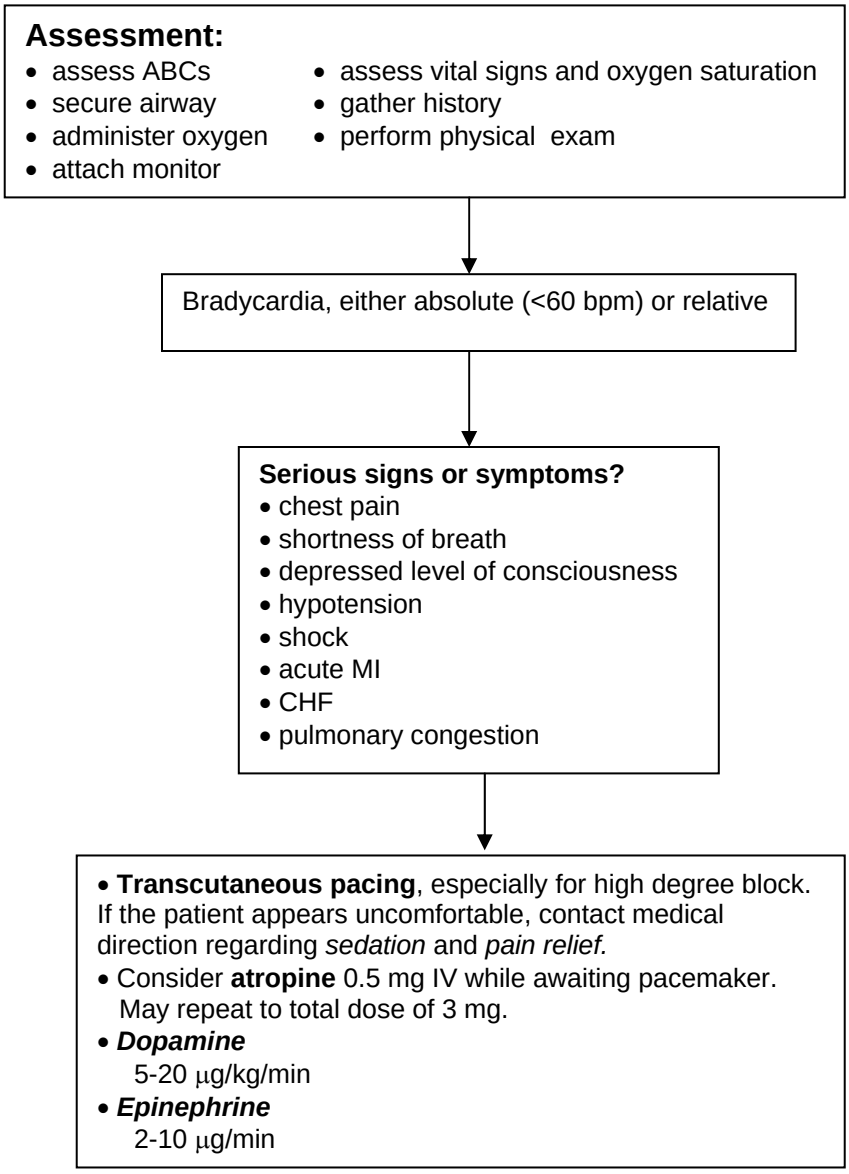
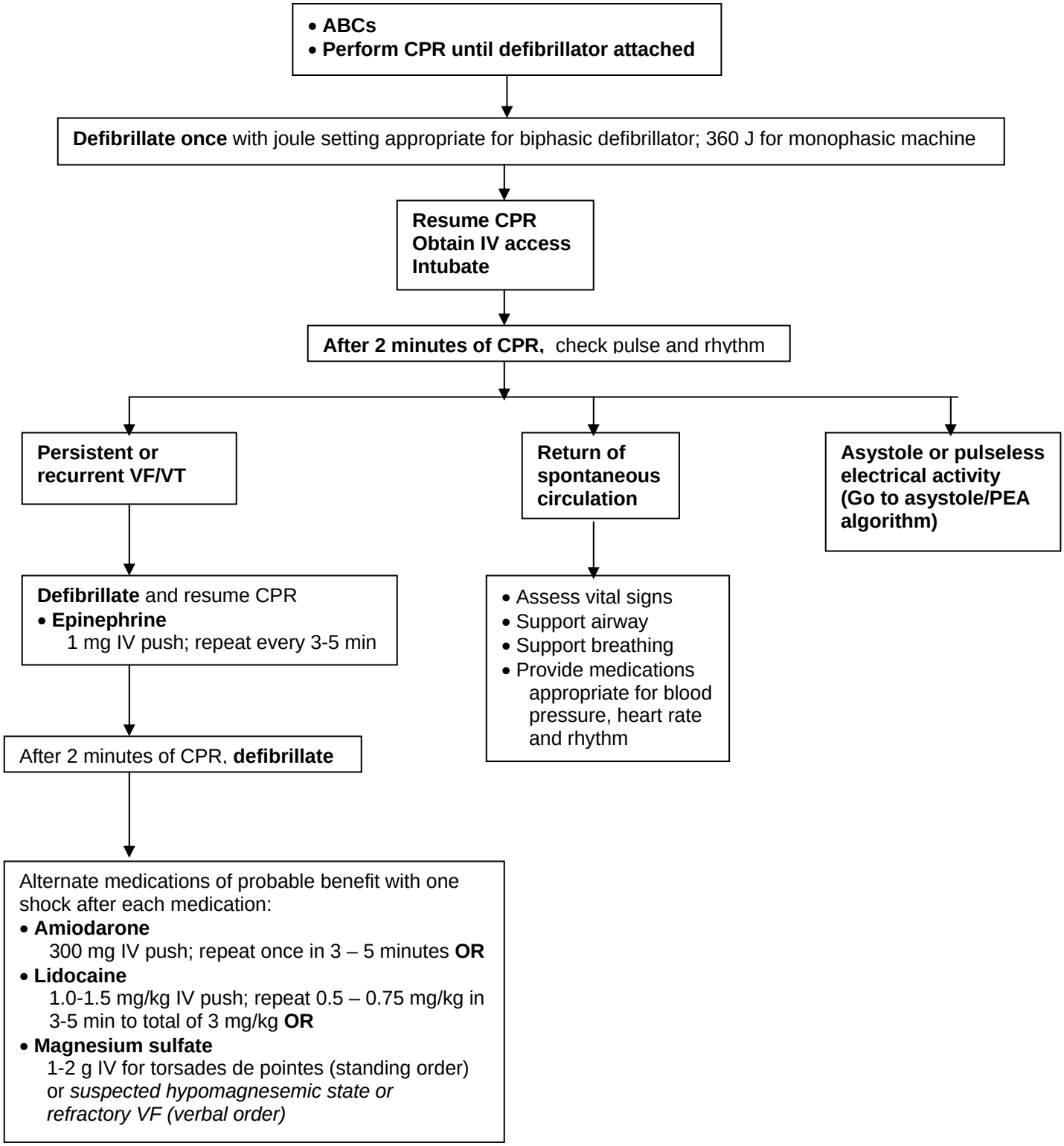
Bradycardia Algorithm



Ventricular Fibrillation/Pulseless Ventricular Tachycardia (VF/VT) Algorithm



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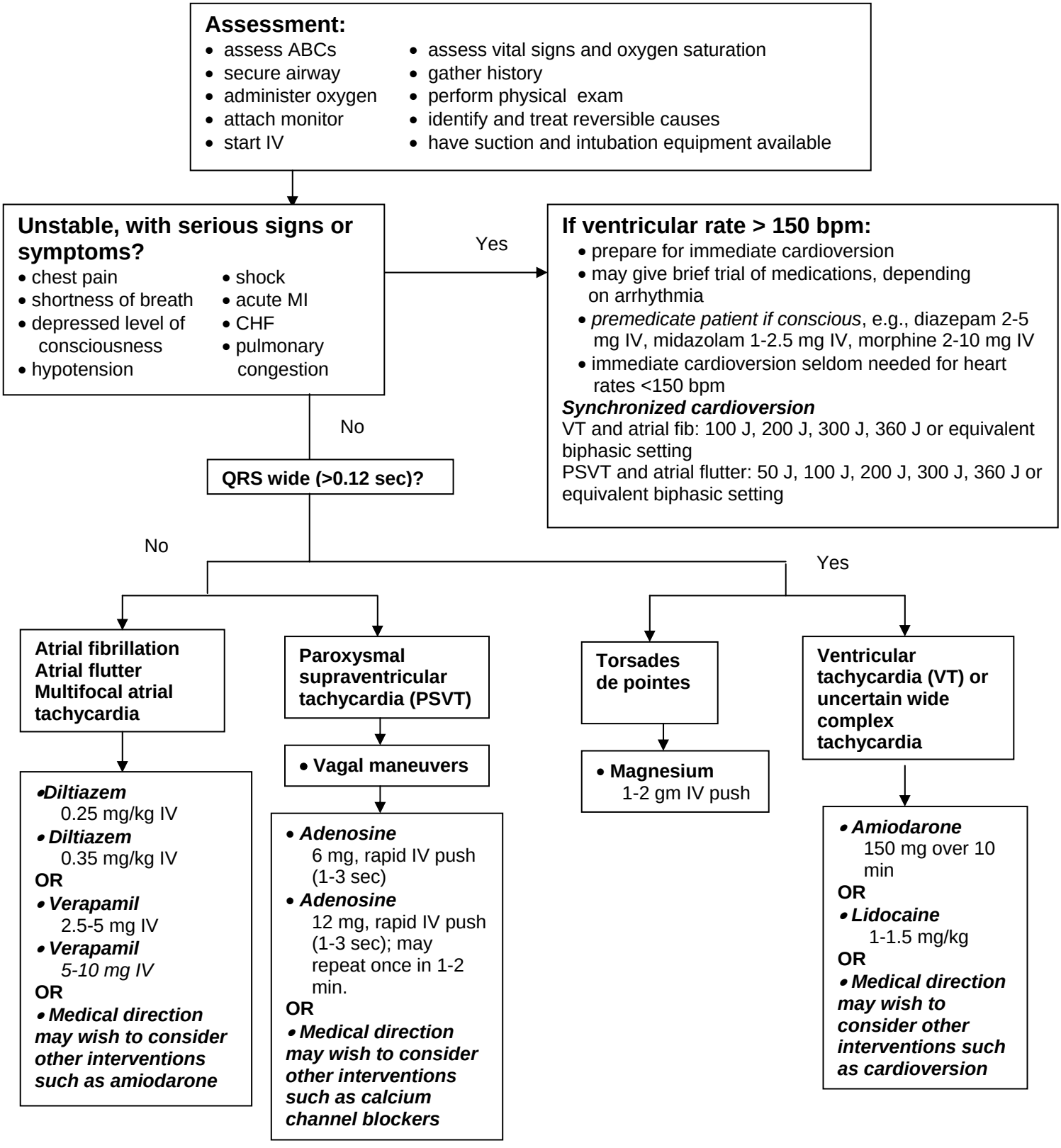
Tachycardia Algorithm



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BEHAVIORAL EMERGENCIES/ VIOLENT PATIENT

I. General Considerations

A. Personal safety is the primary consideration. Observe the environment before you approach. Do not become another victim.

B. Notify the appropriate law enforcement agency prior to arrival at the scene if circumstances suggest a need for their presence. While managing violence is a law enforcement responsibility, the assessment of the patient's medical condition is an EMS responsibility.

C. The potential for violence is increased when:
   1. There is alcohol, other substance abuse or the potential for withdrawal.
   2. There is a mob mentality.
   3. Violence has already occurred.

D. Underlying medical conditions may be responsible for the patient's behavior and must be looked for.

E. Violence may occur through:
   1. A suicidal patient who presents a danger to himself and potentially others.
   2. A patient who is combative due to a medical condition such as diabetes, head injury, or other condition.
   3. A patient exhibiting intentional violence towards others.

F. Use one EMS provider as the point of contact for the patient, but do not work alone.

G. Assess the patient only to the extent that it is safe to do so.

H. Avoid caring for a patient in rooms with only a single entrance/exit. Approach a patient in teams of two, with one rescuer focusing on the patient and the other on scene control. Prevent the patient from getting between you and the exit. Never leave a rescuer alone with a potentially violent or dangerous patient.

I. Use the SAFER model:
   - **S**tabilize the situation by lowering stimuli, including voice.
   - **A**ssess and acknowledge the crisis by validating the patient's feelings and not minimizing them.
   - **F**acilitate the identification and activation of resources (clergy, family, friends, police).
   - **E**ncourage the patient to use resources and take actions in his or her best interest.
   - **R**ecovery or referral- Leave the patient in care of a responsible person or professional or transport to an appropriate hospital. Do not leave the patient alone when EMS clears the scene.

J. Respect the dignity and privacy of the individual.

II. History

Perform a focused history and physical exam with particular attention to:

A. Determine the onset, progression and duration of this behavior.

B. Is there a history of violent behavior?

C. Is the patient under the influence of drugs or alcohol?

D. Is there a psychological/psychiatric history?

E. Is there any history of trauma?

F. Assess for risk to self and others. Ask directly: **Are you thinking about killing yourself or someone else, hurting yourself or hurting others? If yes,**
   - Ask: Have you thought about how you will do this? If yes,
   - Ask about means of harm: Do you have or know where you can get [gun, pills, rope, car, etc.]? If yes,
   - Ask: Have you planned out where and when you will do it? If yes,
   - Ask: Does anyone else know about your plans? [Teens and young adults sometimes

engage in a suicide pact with another person. Getting the names and contact information for other people can sometimes be critical]

III. Physical Exam

A. When forming your initial impression, pay special attention to the following:
   1. Posture: patient appears tense or restless, clenched fists.
   2. Speech: loud, abusive, threatening, angry.

B. Perform an initial assessment.

C. Perform a focused history and physical exam.

IV. Treatment

{If altered level of consciousness present, follow **altered level of consciousness protocol**.}

Basic

A. Control factors that may escalate the patient's agitated state. This may mean, for example, removing other agitated people from the scene and avoiding areas with potential weapons, e.g., kitchen.

B. Attempt to calm the patient:
   1. Concentrate on generating an impression of being cool, calm and collected. Use a low voice. This may cause the excessively talkative patient to stop talking and to hear you.
   2. Identify yourself.
   3. Encourage the patient to talk.
   4. Ask the patient if he has any weapons or plans to be violent.
   5. If the verbal approach has no effect, back off and wait for help.

C. If physical restraint is required, make sure adequate personnel are present. This generally means four people, one for each of the patient's extremities.
   1. Utilize law enforcement assistance as part of your plan for restraint.
   2. Prepare restraints (e.g., padded restraints, blankets or wide cravats).
   3. At a prearranged signal, quickly approach from the sides and grasp the patient's extremities and apply the restraints.
   4. Maintain verbal contact. Explain what will happen next.
   5. Do not remove restraints once applied.
   6. Check circulation in the extremities every 5 minutes.
   7. Use the minimum force necessary. Restraint is never for punitive reasons.
   8. Do not restrain the patient:
      - Face down
      - With hands behind the back
      - With both hands over the head to the top bar of the stretcher (one hand is acceptable)
      - With straps over the lower thorax or upper abdomen
      - Using a sandwich restraint with scoop or backboard

D. Establish an airway, maintain as indicated, suction as needed.

E. Treat other injuries and illnesses.

F. If the patient is at risk for suicide or violence towards others:
   - Transport to a hospital for evaluation
   - If patient refuses transport, contact law enforcement for assistance

G. *Should it appear that the patient will not be transported, seek on-line medical direction.*

BITES, STINGS AND ENVENOMATIONS

I. General Considerations

A. Most bites and envenomations will result in little more than a local reaction.
B. Patients must be monitored closely for signs and symptoms of more generalized reactions.
C. Patients should receive nothing by mouth.

II. History

A. What was the patient bitten/stung by (e.g., snake, cat, dog, ant, scorpion)?
   1. When did it occur?
   2. Was the attack provoked?
   3. What body parts were affected?
B. How is the patient feeling now?
   1. Is the patient experiencing trouble breathing or chest pain?
   2. Is there pain anywhere? (at the site, in the abdomen, etc.)
   3. Has the patient noted any rash or itchiness?
C. Obtain the past medical history.
   1. What medical problems does the patient have?
   2. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?

III. Physical Exam

A. Perform an initial assessment with particular attention to:
   1. Are there any signs of respiratory distress?
   2. Assess the adequacy of respirations.
   3. Assess the level of consciousness.
B. Perform a focused history and physical exam with attention to:
   1. Examine the skin for evidence of a bite or envenomation.
   2. Examine the skin for evidence of a rash or hives.
   3. Is there evidence of poor perfusion?
      (a) Is there cyanosis?
      (b) Is there a change in mental status?
   4. Is there swelling at the site or elsewhere?

IV. Treatment

{If other conditions are present, follow the appropriate protocol(s).}
{If patient is having an allergic or anaphylactic reaction, see **anaphylaxis protocol**.}

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Control bleeding by direct pressure using a sterile dressing.
C. Administer high concentration oxygen.
D. Promptly remove a stinger if it is visible.
E. Splint the affected part as indicated.
F. Apply ice in a plastic bag or a cold pack to the dressed wound unless it is a snakebite.

Intermediate/Paramedic

G. Secure IV access.

Paramedic

H. *Consider use of nitrous oxide or narcotic pain management of medical direction's choice.*

BURNS

I. General Considerations

A. Be aware of the environment and be safe yourself. Do not become another victim.
   1. If you are treating a thermal burn, be aware of possible poisonous gases in the area.
   2. If you are treating a chemical burn, avoid becoming contaminated and avoid contaminating unaffected areas of the victim as you decontaminate.
   3. If electrical burns, avoid contact with the victim until the power has been shut off. Once able to examine the victim, note any entrance and exit wounds.

B. Be vigilant of the patient's airway and respiratory system, especially if the incident occurred in a closed space or steam was involved.

C. Remove the patient's clothing and jewelry to minimize the contamination and further injury. If clothing will not come away freely, cut around it and leave it in place.

D. Be mindful of potential associated injuries (e.g., dislocations or falls post electrical injury or carbon monoxide exposure post burn).

E. The area, degree and extent of burn determine the seriousness of injury. Therefore, estimate the degree of burn, (i.e., superficial, partial thickness, full thickness [**1st, 2nd, 3rd**]) and location (i.e., face, hands, genitalia, etc.).

F. Burn patients should receive nothing by mouth.

G. No treatment should be worse than the injury; avoid causing thermal burns with cold packs or dousing the entire patient with saline.

H. Other serious injuries should be given priority over burn care.

I. Stop the exposure as soon as possible.

II. History

Perform a focused history and physical exam with particular attention to:

A. What type of burn is this? (e.g., thermal, chemical, electrical?)

B. Was the contact in a closed space?

C. Is the patient experiencing other signs or symptoms besides pain at the burn site(s)?
   1. Is the patient having trouble breathing?
   2. Is the patient coughing and what sort of sputum is there?
   3. Is the patient experiencing chest pain?
   4. Does the patient have a headache? Nausea?

D. Obtain the past medical history.

E. What medications has the patient been, or is the patient supposed to be, taking (including over-the-counter medications)?

F. Does the patient have any allergies including medication allergies?

G. What is the patient's age and weight?

H. What "treatment" was carried out prior to your arrival?

III. Physical Examination

A. Perform an initial assessment.

B. Perform a focused history and physical exam with particular attention to:
   1. Note the areas of burn and their depth (1st, 2nd, 3rd degree).

C. Assess the adequacy of respiration.
   1. Note the rate and depth of breathing.
   2. Note any abnormal breath sounds if you are trained to do so.
   3. Is the patient coughing and producing sputum?
   4. Is there evidence of singed eyebrows, nasal hairs, etc.?

D. Is there evidence of decreased perfusion (i.e., mental status change, pulse, BP, skin condition, etc.)?

IV. Treatment

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.
C. Treat other serious injuries.
D. Treat the burn wound:
   1. Thermal burn or scald:
      (a) Cover the burn with a dry, clean or sterile sheet.
      (b) If the burn is less than 10% body surface area, a wet dressing may be applied.
      (c) If the burn is greater than 10% body surface area in an adult and the patient is seeking pain relief, apply a moistened dressing to a painful area no greater than 10% BSA at a time. Rotate the wet dressings as needed to provide pain relief.
   2. Chemical burn:
      (a) Avoid further contamination to the victim.
      (b) Avoid contamination of the rescuers
      (c) If the contaminant is a dry powder, attempt to brush it off, then flush the area with water.
      (d) Copious irrigation with saline or water should be performed immediately and may continue enroute to the hospital. Avoid lowering the body core temperature.
   3. Electrical burn:
      (a) After making certain the patient is no longer in contact with the source, cover all burn areas with dry, sterile dressings or sheets.
      (b) Initiate CPR if needed.

Intermediate

E. Secure IV access.

Paramedic

F. Assess and monitor the cardiac rhythm; treat arrythmias/dysrhythmias per applicable protocols.
G. Consider use of nitrous oxide or narcotic pain management of medical direction's choice.

CARDIAC ARREST

I. General Considerations

A. Defibrillation and CPR take precedence over all other treatments in medical cardiac arrest. Although high quality CPR improves cardiac output in arrest, EMS providers should not perform CPR while an AED is charging. An AED evaluates the rhythm while it is charging and may abort a shock because of interference with the rhythm from CPR.

B. When ineffective cardiac activity exists, perfusion is lacking and irreversible brain damage will occur in normothermic patients within 4 to 6 minutes.

C. CPR should not be interrupted any longer than necessary until an effective pulse is reestablished.

D. The prime concerns in the pediatric cardiac arrest are airway management and oxygenation. Ventricular fibrillation (VF), although not common in children, does occur occasionally and sometimes responds to a shock from an AED. When an EMS provider encounters a child older than 1 year, the provider should apply an AED to the patient's chest and shock the patient as advised. If a pediatric adapter and pads are available, the provider should use them, but they are not required.

E. Some patients may take gasping breaths (agonal respirations) which are not adequate respirations. Do not confuse this with adequate ventilation.

F. Traumatically induced cardiac arrest is quite different from "medical" cardiac arrest. Trauma arrest is generally the result of volume loss and shock. Consequently, the priority for treatment is routinely rapid transport. If defibrillation is indicated and will not delay transport, it should be used.

G. Defibrillators that are FDA approved and acceptable to the EMS District Medical Advisor may be used.

H. A biphasic AED should be programmed to deliver the dose at which it has proved effective in eliminating VF. Depending on the device, this may vary from 120 joules to 200 joules for the initial shock. Subsequent doses should be the same or greater. A monophasic AED should be programmed to deliver 360 joules for each shock.

I. If an EMS provider uses an AED that has not been (or cannot be) reprogrammed to deliver single shocks, the provider should follow current guidelines for ventilation and compression rates, depth and ratios, but follow the prompts of the AED regarding timing and sequence of shocks. This should minimize confusion and result in acceptable patient outcomes.

II. History

Perform a focused history and physical exam with particular attention to:

A. What was the time of onset of the arrest?

B. Does the patient have an apparently valid Do Not Resuscitate (DNR) order or identification?

C. What symptoms immediately preceded the arrest? (e.g., chest pain, lightheadedness, trouble breathing, etc).

D. What medications is the patient taking?

E. What has been done for the patient since the arrest? Has the patient received effective CPR and for how long?

III. Physical Examination

A. Perform an initial assessment with particular attention to:
- Verifying absence of effective respirations.
- Verifying absence of a pulse (e.g., carotid in the adult, carotid or femoral in child and brachial or femoral in infant).

B. Perform a brief history and physical exam to determine if there are unsurvivable injuries,

rigor mortis or discoloration of the skin at the lowest parts of the body.

Paramedic

C. Determine the cardiac rhythm.

IV. **Treatment** (see appropriate protocol)

{Notes: If the patient meets criteria for "Dead on the Scene", refer to that protocol.
If the patient is in cardiac arrest with major multiple system trauma, refer to that protocol.
If the patient has an apparently valid Do Not Resuscitate (DNR) order or identification, see the Do Not Resuscitate protocol.}

Basic

A. **EMT-Basics** should follow the Automated External Defibrillation (AED) sequence for patients more than 1 year old.
B. Establish an airway, maintain as indicated, suction as needed.
C. Perform CPR. Avoid hyperventilating the patient. Evidence strongly suggests hyperventilation is harmful unless there is a clear, compelling reason to institute it. Good ventilations at the recommended rate (10 – 12 in the adult) are more beneficial than faster ventilations.
D. Administer high concentration oxygen.

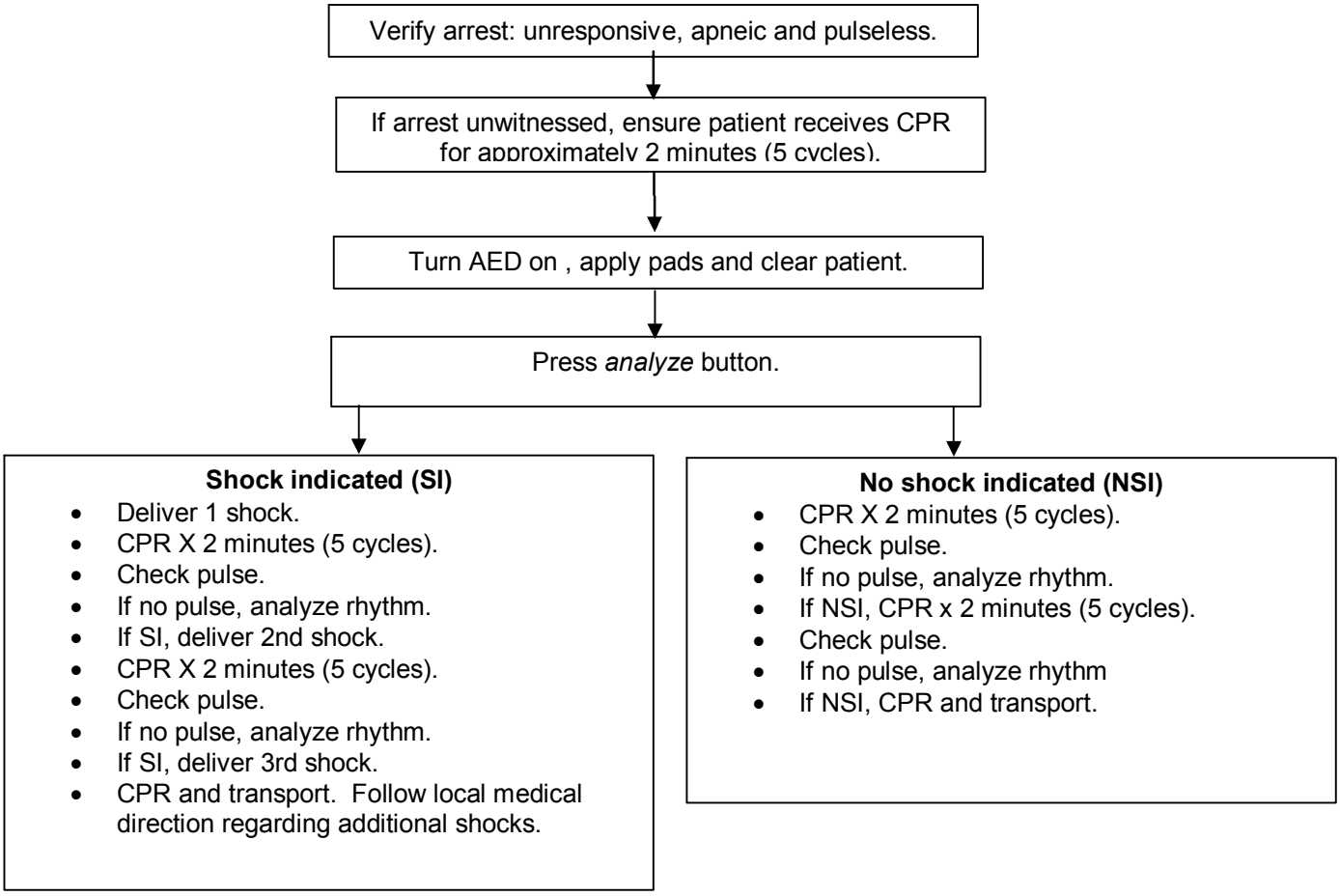
Intermediate

E. **If** the patient remains **in respiratory arrest,** perform advanced airway management.
F. Secure IV access.

Paramedic

G. Shock persistent ventricular fibrillation (VF) with the energy level at which the defibrillator has proved effective in eliminating VF. Perform CPR when the patient is not being shocked or assessed.
H. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols. Consult medical direction regarding pediatric medication doses.
I. Intubate the patient.

CARDIAC ARREST TREATMENT SEQUENCE WITH AUTOMATED EXTERNAL DEFIBRILLATION



Notes:

- Whenever a no shock indicated (NSI) message appears, perform CPR for 2 minutes (5 cycles).
- If the patient regains a pulse, check breathing. Ventilate with high-concentration oxygen, or give oxygen by nonrebreather mask as needed.
- If you initially shock the patient and then receive an NSI message before giving three shocks, follow the steps in the above right-hand column.
- If you initially receive an NSI message and then on a subsequent analysis receive a shock indicated (SI) message, follow the steps in the above left-hand column.
- Occasionally you may need to shift back and forth between the two columns. If this happens, follow the steps until one of the indications for transport (described below) occurs.
- Transport as soon as one of the following occurs:
  - You have administered three shocks.
  - You have received three consecutive NSI messages (separated by two minutes of CPR).
  - The patient regains a pulse.
- If you shock the patient out of cardiac arrest and he arrests again, start the sequence of shocks from the beginning.

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I. General Considerations

A. The causes of chest pain are many. They range from very benign conditions to life threatening problems and are often difficult to differentiate in the field in all age groups.

B. All chest pain should be considered a serious problem until a physician has assessed it to be otherwise.

C. Most deaths from heart attack occur within a few hours of the onset of symptoms and are usually caused by acute arrhythmias. Be prepared for the patient to arrest.

D. Time to definitive care for many chest pain related problems is critical; don't delay transport.

E. Constant monitoring of the patient's condition is essential. Ventricular fibrillation frequently occurs without warning.

F. Abnormal ECG strips (particularly ST and T changes) can be due to technical factors or non-acute cardiac disease.

II. History

Perform a focused history and physical exam with particular attention to:

A. Are there any associated symptoms?
   1. Sweating (diaphoresis)
   2. Nausea
   3. Vomiting
   4. Shortness of breath or trouble breathing?
   5. Dizziness
   6. Loss of consciousness
   7. Palpitations
   8. Cough
   9. Fever
   10. Sputum production
   11. Wheezing
   12. Trouble lying flat
   13. Ankle swelling

B. Is there a history of trauma?

C. Obtain the past medical history:
   1. Has the patient had high blood pressure, diabetes, elevated cholesterol, a stroke, angina, a pacemaker, an implanted defibrillator, or an irregular pulse?
   2. Does the patient have respiratory diseases such as chronic bronchitis, pneumonia, COPD, asthma?
   3. Has the patient had any surgeries in the past, especially coronary bypass surgery, surgery of the blood vessels?
   4. Is the patient a smoker?

D. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)? Use of Sildenafil (Viagra®) or other erectile disfunction medications (GMP-specific phosphodiesterase Type 5 inhibitors) within 48 hours is a contraindication to nitroglycerine administration.

E. Does the pain change with position, movement or breathing?

F. Has patient taken aspirin within the preceding 24 hours?

G. Has the patient taken nitroglycerin for this event?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam with particular attention to:
   1. Is there evidence of chest trauma or paradoxical chest movement?
   2. Palpate (feel) the chest to see if there is tenderness.
   3. Assess the neck:
      (a) is the trachea midline?
      (b) is there subcutaneous emphysema?
      (c) Are the neck veins distended?
   4. Are the ankles swollen?
C. Assess the breath sounds if you are trained to do so:
   1. Are they present and equal right and left?
   2. Are there rales, rhonchi (crackles), or wheezes?
D. Assess the skin:
   1. Is it warm, hot or cool?
   2. Is it dry or moist?
   3. Note any color changes (e.g., pale, cyanotic, red).
   4. Is there bruising or evidence of injury?
   5. Is there a rash?

Paramedic
E. Assess the cardiac rhythm and, if authorized by medical direction, obtain a 12-lead EKG.

IV. Treatment

Basic
A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.
C. Reassure the patient.
D. Place the patient in a position of comfort.
E. Monitor vital signs frequently.
F. ***EMT-Bs****- If the patient has their own prescribed nitroglycerin tablets or sublingual nitroglycerin spray, contact on-line medical direction for orders to administer one tablet or one puff of spray. Complete an on-going assessment, including a full set of vital signs. On-line medical direction may order additional doses every 5 minutes, up to three total doses. Do not give additional nitroglycerin if hypotension (systolic BP less than 100mm Hg) develops.*

Intermediate
G. Establish IV access. If it seems highly probable that a patient is suffering from an acute coronary syndrome, limit the number of IV attempts as subsequent bleeding after thrombolysis may be difficult to control.
H. ▲ *If ordered by on-line medical direction, administer 0.4 mg nitroglycerin tablet or spray sublingually every 5 minutes as long as needed for pain while closely monitoring vital signs. Do not give additional nitroglycerin if hypotension (systolic BP less than 100mm Hg) develops.*
I. ▲ *Administer 81-325 mg aspirin PO (chewable is acceptable) if the patient has no known hypersentivity to NSAIDs (non-steroidal anti-inflammatory drugs), bleeding ulcers or anticoagulant history* (Standing order for paramedics).

Paramedic

J. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.

K. If the chest pain is felt to be cardiac in origin by the paramedic, administer 0.4 mg nitroglycerin sublingually every 5 minutes as long as pain persists and systolic blood pressure remains over 100 mm Hg. If pain persists after 3 nitroglycerin doses and systolic blood pressure remains above 100, apply 1 to 2 inches of nitroglycerin paste topically. If in the opinion of the paramedic the patient appears to be in congestive heart failure or pulmonary edema, refer to the difficulty breathing protocol subsection.

L. Consider use of nitrous oxide or narcotic pain management of medical direction's choice.

COLD EXPOSURE
(Hypothermia and frostbite)

I. General Considerations

A. No one is dead until warm and dead.
B. Hypothermia is generally considered in two large categories:
   1. Local hypothermia - frost bite, cold nip.
   2. Generalized hypothermia.
C. Regarding local cold injury:
   1. Thawing should be done under controlled conditions (generally in-hospital) and is painful.
   2. Complete rewarming requires prolonged active heating and is seldom possible in the field. Partial rewarming is worse than none.
D. Regarding generalized hypothermia:
   1. Hypothermia may be a sign of hypoglycemia.
   2. Generalized hypothermia can occur whenever the surrounding temperature is less than body temperature if the body is not capable of maintaining its temperature.
   3. The very young, elderly and debilitated patients are at most risk of hypothermia.
   4. Heat loss occurs more rapidly in cold water and is increased 5 times for patients wearing wet, cold clothing.
   5. Removing cold, wet clothing and protecting the patient from wind will greatly help preserve body temperature.
   6. Give the patient nothing by mouth unless ordered to do otherwise by medical direction.
   7. Most thermometers do not register below 96 degrees Fahrenheit (35 degrees Celsius) and may therefore give a false sense of the patient's temperature.
   8. Shivering ceases below 90 degrees Fahrenheit (32 degrees Celsius).
   9. Hypothermic patients must be gently handled.
   10. Respiratory support with 100% oxygen should be done gently. Since insertion of an endotracheal tube may cause ventricular fibrillation, the procedure on hypothermic patients must be individualized and, if ordered by medical direction, must be done gently.
   11. The pulse rate should be determined for one full minute since profound bradycardia is common.
   12. Only if the patient is truly pulseless should CPR be initiated since hypothermia may be protective of body tissues and the patient's own cardiac activity, if present, is likely to be better than CPR perfusion.
   13. Since defibrillation of ventricular fibrillation will rarely be beneficial if the patient's temperature is less than 88 degrees Fahrenheit (31 degrees Celsius), the decision to defibrillate should be made in conjunction with medical direction input.

II. History

Perform a focused history and physical exam with particular attention to:

A. What is the length of exposure?
B. Was there immersion/submersion in water?
C. Was there unconsciousness?
D. Was there trauma?
E. Determine the patient's past medical history.
   1. Has the patient had high blood pressure, diabetes, strokes, angina, peripheral vascular disease?
   2. Does the patient have respiratory diseases such as chronic bronchitis, pneumonia, emphysema, asthma?
   3. Has the patient had any surgeries in the past, especially coronary bypass surgery,

surgery of the blood vessels?

F. What medications has the patient been, or is the patient supposed to be, taking including over the counter medications?

G. Did an affected limb thaw and refreeze?

III. Physical Exam

A. Perform an initial assessment.

B. Perform a focused history and physical exam.

Paramedic

C. Assess the cardiac rhythm.

IV. Treatment

Basic

A. Localized cold injury:
   1. Protect the affected areas from injury:
      a. Avoid pressure, trauma, friction.
      b. Uncover affected parts from clothing, etc.
      c. Do not rub.
      d. Do not break blisters
   2. Do not induce a burn by using local heat in excess of 100 - 110 degrees Fahrenheit (38 - 43 degrees Celsius).
   3. Maintain core body temperature by keeping the patient warm and dry.
   4. Transport as soon as possible.

B. Generalized hypothermia:
   1. Establish an airway, maintain as indicated, suction as needed.
   2. Administer high concentration oxygen.
   3. If there is no pulse after a one-minute pulse check, *consult medical direction regarding whether to initiate CPR and transport.* Medical direction will likely I inquire about things like: when the patient was last seen or known to be alive; environmental clues that might suggest why the patient is hypothermic; information regarding why the patient may have arrested (e.g., pill bottles, trauma) and what the patient's general state of health was before this incident.
   4. Remove cold, wet clothing.
   5. Transport with gentle handling.

Intermediate

   6. Secure IV access.
   7. *If the patient is in respiratory arrest, secure advanced airway.*

Paramedic

   8. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.
   9. *If appropriate, secure advanced airway.*

DIABETIC EMERGENCIES

I. General Considerations

A. Diabetics are not the only persons who become hypoglycemic. Alcoholics, some poisoned patients, and others may develop problems of glucose metabolism.
B. Diabetics have problems with both too much and too little glucose. In general, if in doubt, give glucose.
C. The brain requires a constant and uninterrupted supply of glucose. Without glucose, it is unable to function properly and signs and symptoms of hypoglycemia may appear (e.g., bizarre behavior, altered neurological signs which may appear stroke-like and coma.) Therefore, any patient with altered level of consciousness should be assessed for the possible need for glucose administration.
D. Insulin is required for sugar to enter cells. When insulin is low, the body makes more glucose to drive sugar into the cells.
E. The treatment of ketoacidosis in the field depends upon making the correct assessment. It is generally safer to assume that the patient in a coma is hypoglycemic, rather than hyperglycemic. If the history, physical exam or known glucose levels are consistent with ketoacidosis, then the treatment is aimed at hydration.
F. The patient in ketoacidosis is generally dehydrated, perhaps even to the point of shock and will require fluid volume.
G. Acidosis causes shifts in serum potassium which may lead to electrocardiographic changes.

II. History

Perform a focused history and physical exam with particular attention to:

A. When was the patient last completely well?
B. Determine the onset, progression and duration of the illness.
C. Obtain a past medical history including alcohol use, diabetes, epilepsy, hypertension, cardiac disease, lung disease, strokes?
D. Has the patient been experiencing increased or frequent urination, increased thirst or increased appetite?
E. What medications has the patient been taking or is the patient supposed to be taking, including over the counter medications?
F. Has the patient eaten recently?
G. Has the patient been exercising recently or decreased food intake?
H. Has the patient experienced shortness of breath, chest or abdominal pain?
I. Has the patient noted fever, nausea, vomiting, diarrhea, cough or sputum production?
J. Has the patient noted any signs of infection?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam.
C. Assess the breath sounds if you are trained to do so.
    1. Are there rales, rhonchi (crackles), or wheezes?
D. Assess the skin.
    1. Is it warm, hot or cold?
    2. Is it dry or moist?
    3. Note any color changes (e.g., pale, cyanotic, red).
    4. Is there bruising or evidence of injury?
E. Is there any recognizable breath odor?
F. Is there a recognizable breathing pattern?
G. Assess the patient's level of consciousness.

H. Assess the patient's neurological condition.
   1. Check the pupils for size, symmetry, reactivity.
   2. Assess motor function. Is the patient moving all four extremities? Is there equal grip strength? Is there posturing?
   3. Is sensation to touch intact in all four extremities?

I. Inspect the surroundings.
   1. Check for pill bottles, syringes, etc.
   2. Is there evidence the patient has/has not been eating?

Paramedic

J. Assess the cardiac rhythm.

IV. Treatment

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen
C. Monitor the vital signs frequently during transport.
D. If the patient can swallow on command and the patient's presentation is consistent with hypoglycemia, administer up to one tube of oral glucose or glucose-containing solution orally.

Intermediate

E. Secure IV access. Obtain blood specimen for glucose determination at the hospital if the receiving hospital desires it.
F. Perform capillary blood glucose determination. Do not use blood from IV start.
G. *If patient's blood glucose level is <80 mg/dl, administer dextrose 50% 25 gm IV in a secure vein for an adult* (standing order for paramedics) *or 0.5 - 1 gm/kg for a child.*
H. ▲ *Administer thiamine 100 mg IV if dextrose is to be administered.*
I. ▲ *If IV access cannot be secured and the patient's blood glucose level is <80 mg/dl, administer 1 mg glucagon IM*

Paramedic

J. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.

DIFFICULTY BREATHING

I. General Considerations

A. Never withhold oxygen because of the patient's past medical history.
B. Whenever oxygen is administered, be prepared to control the airway and breathe for the patient.
C. Do not assign psychological causes to complaints of respiratory difficulty. Serious and treatable causes may be present and must be identified and treated. Especially do not assume that hyperventilation is due to psychological causes. Putting a bag over a patient's face is risky.
D. Not everything that wheezes is asthma and not all asthmatics wheeze. Consider the many causes of wheezing and be concerned if wheezing ceases but the patient appears worse.
E. Suctioning should occur only as the catheter is withdrawn in patients who are not breathing or endotracheally intubated. Where possible, these patients should be oxygenated before and after suctioning. Suctioning should be as brief as possible (typically not more than 5 seconds and certainly not more than 15 seconds).
F. Never leave the patient unattended.
G. In acute respiratory distress where no cause is evident, consider pneumothorax.
H. If a pneumothorax is present, intubation combined with positive pressure ventilation can lead to the rapid development of a tension pneumothorax. Be prepared to treat the patient appropriately.
I. Do not delay transport.

Pediatrics:
If a child appears sick, is holding himself in the sniffing position (neck flexed, head extended) and is drooling, do not attempt to visualize the throat.

II. History

Perform a focused history and physical exam with particular attention to:

A. Determine the onset, progression and duration of symptoms.
B. What was the patient doing immediately before and as the symptoms developed? (e.g., eating, exercising, working with solvents, swimming?).
C. Is there a history of injury or insult (trauma, inhalation, choking, aspiration, etc.)?
D. Has the patient ever experienced an episode like this and if so, what was the cause and what treatment was effective?
E. If the patient is unconscious, how long has it been, has the patient vomited, and what treatment was done?
F. Is there a history of lung disease, cardiac or vascular problems, environmental allergies (e.g., bee sting or ragweed problem) or chronic lung disease? Any home oxygen in use?
G. Is there a history of recent surgery?
H. What signs and symptoms were present before the trouble breathing began? For example, fever, chills, cough, sputum production, leg swelling, chest pain, seizure, bloody sputum, bloody vomitus or bowel movements, numbness and tingling?
I. What medications has the patient been or is the patient supposed to be taking? Include over the counter medications.
J. Assess the environment. Are there noxious odors or could harmful gases be present? Are there bees or allergenic sources nearby?
K. If this is a possible drowning, how long was the patient submerged? What was the approximate water temperature?
L. Has there been a change in voice? Is the patient drooling? Does the patient have a fever?

III. Physical Examination

A. Perform an initial assessment with special attention to the adequacy of ventilation and mental status.
B. Perform a focused history and physical exam.
C. Assess the patient for evidence of upper airway obstruction.
    1. Is the patient able to speak? How many words in a sentence?
    2. Is there hoarseness, coughing, stridor or audible wheezing?
    3. Is there drooling or tripoding?
    4. Assess the chest.
        a. Are accessory muscles being used?
        b. Are there retractions?
        c. Is chest expansion symmetrical?
        d. Assess the breath sounds if you are trained to do so.
            1. Are they present and equal right and left?
            2. Are there rales, rhonchi (crackles), or wheezes?
D. Assess the skin.
    1. Is it warm, hot or cool?
    2. Is it dry or moist?
    3. Note any color changes (e.g., pale, cyanotic, red).
    4. Is there evidence of a bite or sting?
    5. Are hives or a rash present?
    6. Is there bruising or evidence of injury?
E. Assess the neck.
    1. Is the trachea midline?
    2. Is there subcutaneous emphysema?
    3. Are the neck veins distended?
F. Assess the patient for signs of peripheral edema.
    1. Are the ankles swollen?
    2. Is there edema over the lower back and sacrum area?

Paramedic

G. Assess the cardiac rhythm.

IV. Treatment

{For anaphylaxis, see **anaphylaxis protocol**}

Basic

A. Establish an airway, maintain as indicated; suction as needed.
B. Based on assessment findings, determine which of the following categories the patient fits into:
    breathing is adequate;
    breathing is inadequate or absent;
    airway is obstructed by a foreign body.

If the patient is breathing adequately:

Basic

A. Administer high concentration oxygen.
Note: If the patient has a known history of COPD or is on low concentration oxygen at home, assess the patient's respiratory difficulty carefully. It may be appropriate to use low concentration oxygen on patients with minimal difficulty breathing. When in doubt,

use high concentration oxygen and report the patient's history and condition to medical direction for further guidance.

B. Place the patient in a position of comfort.

C. Re-assess the adequacy of the patient's respirations frequently. Be prepared to treat the patient for inadequate ventilation.

D. ***EMT-Bs****- If the patient has a currently prescribed broncho-dilator, determine if the patient has used it prior to your arrival and if so, how many times. Contact on-line medical direction for orders on additional doses using the metered-dose inhaler up to the maximum dose prescribed on the inhaler. Complete an ongoing assessment including reevaluation of vital signs.*

Intermediate

E. Secure IV access.

F. ▲ *If the patient's condition is consistent with bronchoconstriction, seek on-line direction for adult and pediatric administration of albuterol.*

Paramedic

G. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.

If the patient's breathing is inadequate or absent:

Basic

A. Assist the patient's ventilations using an appropriate device (bag-valve-mask, flow-restricted oxygen-powered ventilation device (FROPVD), pocket mask, etc.) and high concentration oxygen.

Intermediate

B. Secure IV access.

C. *Consider contacting medical direction for order to administer naloxone.*

D. If the patient is **in respiratory arrest,** and the patient's condition has not improved after administration of naloxone (if ordered), secure the airway using an advanced airway device. Do not extend the neck.

Paramedic

E. Secure advanced airway. *As needed and as authorized by medical direction, consider pharmacologically-assisted intubation.*

F. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.

If the patient's airway is obstructed by a foreign body:

Basic and Intermediate

A. Follow nationally recognized guidelines for relief of foreign body airway obstruction.

Paramedic

B. If manual efforts, laryngoscopy and Magill forceps are unsuccessful, perform trans-tracheal catheter ventilation.

Paramedic Interventions (in addition to the above)

Acute exacerbation of asthma or chronic obstructive pulmonary disease

A. Administer Albuterol
   1. A patient over 12 years of age may take 2 puffs of an inhaler; or
   2. Nebulize 2.5 mg in 3.0 ml NS.

B. *If local medical direction permits, an anticholinergic such as ipratropium (0.5 mg) or glycopyrrolate (0.2 - 1.2 mg) may be added to this treatment.*

C. *Consider seeking on-line medical direction for the administration of methylprednisolone 1 mg/kg intravenously*

D. *If allowed and ordered by on-line medical direction, bi-level non-invasive mask ventilation or continuous positive airway pressure mask ventilation may be administered.*

Pulmonary edema

A. Administer nitroglycerin 0.4 mg SL and apply 1 to 2 inches of nitroglycerin paste topically.

B. *Administer Furosemide 40 - 80 mg IV push or other diuretic.*

C. *Medical direction may consider administering an ACE inhibitor.*

D. *Consider morphine sulfate 2-5 mg IV slowly and repeat once in 5 minutes if needed.* Monitor respiratory rate and blood pressure closely. Be prepared for vomiting.

E. *If allowed and ordered by on-line medical direction, bi-level non-invasive mask ventilation or continuous positive airway pressure mask ventilation may be administered.*

Tension pneumothorax (pneumothorax with hemodynamic compromise)

A. *Perform needle chest decompression.*

EYE EMERGENCIES

I. General Considerations

A. Little treatment can be given in the field for most eye emergencies. Management should be directed at protecting the eye from further harm during transport.
B. Irrigation of the eye, when appropriate, should be initiated immediately, even if transport is delayed. Irrigation may need to continue during transport to the hospital.
C. Avoid touching the eye.
D. Nausea and vomiting are common in patients with eye injuries.
E. Patients with a history of acute angle closure glaucoma should receive prompt transport as their condition may be an acute emergency.

II. History

Perform a focused history and physical exam with particular attention to:

A. What is the complaint?
    1. Is there pain?
    2. Is there foreign body sensation?
    3. Is there visual change?
        a. What can the patient see (e.g., light, dark, objects, etc.)?
        b. Is vision blurred?
        c. Is there double vision?
        d. Is there loss of vision, partial or complete?
    4. Was the onset gradual or sudden?
B. What happened? What was the patient doing?
    1. Is there a history of blunt trauma?
    (a) direct? (e.g., blow to eye itself)
    (b) indirect? (e.g., blow to head)
    2. Is there a history of penetrating trauma?
    3. Is there a history of hazardous activity? (e.g., grinding, welding, hammering)
    4. Was eye protection in use at the time of injury?
C. What treatment has been done?
    1. Irrigation
    2. Medication
D. Are there any associated symptoms (e.g., nausea, headache, etc.)?
E. Is there a history of eye problems or treatment?
    1. Wears glasses/contacts?
    2. Eye surgery?
    3. Glaucoma?
    4. Glass eye?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam, observing the gross appearance of the eye:
    1. Is there bleeding or drainage?
    2. Is there a visible foreign body?
        (a) where on the eye?
        (b) what is it?
    3. Is there an obvious laceration or penetration of the eye?
    4. Do the eyes move together from side to side/up-down?
    5. Note any other physical findings.
C. Check the pupils.
    1. Are they round?

2. Do they react to light?
3. Are they symmetrical?

D. Can the patient see light/dark? Count fingers? Read printed material?

E. Note any associated injuries.

IV. Treatment

Basic

A. Trauma

1. Penetrating injury (obvious laceration or penetration):
   (a) do not attempt to remove an impaled object.
   (b) place the patient in position of comfort, often supine.
   (c) apply a soft eye pad, lightly secured with an eye shield, or a cup over the injured eye.
2. Blood in the anterior chamber (front of the eye):
   (a) place the patient in the position of comfort, preferably semi-reclining.
   (b) apply a soft eye pad, lightly secured with an eye shield, or a cup over the injured eye.
3. Double vision after trauma, vision loss or eye pain:
   (a) treatment same as for penetrating injury.
4. Foreign body:
   (a) do not attempt to remove a foreign body.
   (b) apply a soft eye pad, lightly secured with an eye shield, or a cup over the injured eye.
5. Other:
   (a) treatment same as for penetrating injury.

B. Chemical Exposure of Eye

1. Alkali, acid and other chemicals:
   (a) irrigate immediately with tap water or IV solution, either LR or NS, whichever can be begun most quickly, for a minimum of 20 minutes.
   (b) place the affected eye downward so irrigation does not run into the unaffected eye.

C. Painful or Painless Non-Trauma:

1. Transport the patient.

HEAD TRAUMA

I. General Considerations

A. Spine trauma can accompany head trauma and so spinal immobilization should receive consideration.
B. If the patient is in shock, seek causes other than the head injury to explain it.
C. Always be prepared to rigorously guard and maintain the airway; be prepared for vomiting.
D. Be prepared for seizures.
E. The restless, combative patient may be so because of the head injury, but hypotension hypoperfusion, and hypoxia must be considered and treated.
F. Observations regarding the patient's level of consciousness and changes are of critical importance; observe the patient closely and communicate changes to the receiving hospital.
G. Minimize on scene time as much as possible.

II. History

Perform a focused history and physical exam with particular attention to:

A. Does the patient have any pain, numbness or tingling anywhere?
B. Has the patient lost consciousness?
C. What time did the injury occur?
D. What was the mechanism of injury? What forces were involved?
E. Is the patient chemically impaired? (alcohol, drugs, etc)
F. Has the patient moved himself or been moved?
G. Does the patient remember events either preceding or following the injury?
H. Obtain the past medical history.
I. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?

III. Physical Examination

A. Perform an initial assessment.
B. Perform a focused history and physical exam.
C. Obtain a complete set of baseline vital signs.
    1. Is the patient hypertensive and bradycardic?
D. Assess the patient's neurological condition.
    1. Check pupils for size, symmetry, reactivity.
    2. Assess motor function. Is the patient moving all four extremities? Is there equal grip strength? Is there posturing?
    3. Is sensation to touch intact in all four extremities?
E. Are there signs of trauma which might have caused altered mental status/coma (e.g., head trauma, hematomas, Raccoon eyes, bruising behind the ears)?
F. Are there other injuries (e.g., hip or wrist fracture?)
G. Is there an unusual breath odor? (alcohol, fruity acetone)?
H. Is there any evidence of chemical use, e.g., needle tracks, runny nose?
I. Is there abnormal flexion or extension of the extremities?
J. Is there fluid from the nose or ears?

IV. Treatment

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.
C. Immobilize the spine.

Intermediate

D. Secure IV access.

E. If the patient is in respiratory arrest, secure the airway using an advanced airway device.

F. If patient's mental status is altered:

1. Perform capillary blood glucose determination.
2. *If patient's blood glucose level is <80 mg/dl, administer dextrose 50% 25 gm IV in a secure vein for an adult* (standing order for paramedics) *or 0.5 - 1 gm/kg for a child.*
3. ▲ *Administer thiamine 100 mg IV if dextrose is to be administered.*
4. ▲ *If IV access cannot be secured and the patient's blood glucose level is <80 mg/dl, administer 1 mg glucagon IM.*

Paramedic

G. Secure advanced airway. Do not extend the neck to intubate.

H. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.

I. If capnography is available, follow any local medical direction guidance for $ETCO_2$ level.

HEADACHE

I. General Considerations

A. Be certain that it is not the environment that is causing the headache (e.g., carbon monoxide or other noxious fumes) and may endanger the rescuer.
B. Headaches that are sudden in onset, severe and especially those that are associated with an alteration of mental status or abnormal neurological exam, are most concerning.
C. Mental status may fluctuate and may deteriorate. Close observation and monitoring are required. Be prepared to treat seizures.
D. If several people have similar complaints, suspect an environmental cause.

II. History

Perform a focused history and physical exam with particular attention to:

A. Determine the onset, progression, duration and location of the headache.
B. Were there any preceding symptoms?
    1. Flashing lights or wavy lines
    2. Smells or sounds
    3. Fever, chills, cough
    4. Rash
    5. Sore throat
    6. Stiff neck
    7. Photophobia
C. Has the patient ever had headaches like this one before and how does this one compare?
D. Has there been any trauma to the head or falls?
E. Obtain the past medical history including history of hypertension, cardiovascular disease, diabetes, alcohol or drug use, epilepsy and migraine headaches.
F. Is the patient taking any medications, especially aspirin or coumadin?
G. Has the patient experienced any difficulty in walking, moving the hands or arms, understanding you, seeing, or difficulty either in speaking or expressing thoughts?
H. Is the patient experiencing any other symptoms (e.g., chest pain, shortness of breath, etc.)?
I. If the patient is female, could she be pregnant?
J Does the patient use illicit drugs?

III. Physical Examination

A. Perform an initial assessment.
B. Perform a focused history and physical exam.
C. Assess the level of consciousness.
D. Assess the patient's neurological condition.
E. Assess the surroundings:
    1. Check for pill bottles, syringes, etc.
    2. Note odor in the area, unvented heaters, etc.

Paramedic

F. Assess the cardiac rhythm:
    1. Is it too fast or too slow?
    2. Is it regular or irregular?
    3. Is it a benign rhythm or not?

IV. Treatment

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.

Intermediate

C. Secure IV access.

Paramedic

D. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.
E. Consider use of nitrous oxide or narcotic pain management of medical direction's choice.

HEAT EXPOSURE

I. General Considerations

A. Sweating (or lack of sweating) is an unreliable indicator of the severity of heat illness.
B. Of primary concern are the patient's vital signs and mental status.
C. The patient's baseline health status and medications greatly determine the likelihood of developing and recovering from heat illness.
D. The very young and very old are at greatest risk of heat illness.
E. There may be pharmacological causes for heat illness.

II. History

Perform a focused history and physical exam with particular attention to:

A. Determine the onset, progression and duration of symptoms.
B. What was the patient doing before and as the symptoms developed?
C. Is there a history of injury or insult?
D. Is the patient lightheaded?
E. Is the patient nauseated?
F. Is the patient experiencing chest pain or trouble breathing?
G. Obtain the past medical history, including diabetes, hypertension, cardiovascular disease, pulmonary disease, etc.
H. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam.
C. Assess the patient's level of consciousness.
D. Assess the skin:
    1. Is it warm, hot or cool?
    2. Is it dry or moist?
    3. Note any color changes (e.g., pale, cyanotic, red).
    4. Is there a rash present?
E. Assess the environment for temperature and humidity.

IV. Treatment

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen
C. Remove the patient's clothing.
D. If skin is warm to the touch, a fine mist of room temperature water may be sprayed on the patient.
E. *If medical direction orders it, ice packs may be placed in areas near large superficial arteries.* Discontinue active cooling if shivering occurs and notify medical direction.

Intermediate

F. Secure IV access. Obtain blood specimen for glucose determination at the hospital if the receiving hospital desires it.
G. If mental status is altered perform capillary blood glucose determination.
H. *If patient's blood glucose level is <80 mg/dl, administer dextrose 50% 25 gm IV in a secure vein for an adult* (standing order for paramedics) *or 0.5 - 1 gm/kg for a child.*

I. ▲ *Administer thiamine 100 mg IV if dextrose is to be administered.*

J. ▲ *If IV access cannot be secured, administer 1 mg glucagon IM*

Paramedic

K. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.

HEMORRHAGE AND BLEEDING WOUNDS

I. General Considerations

A. Tourniquets are rarely needed.
B. Hemorrhage is a prime concern in the ABCs and one should take steps to control bleeding early on.
C. Wherever possible, attempt to minimize contamination of the wound by using sterile dressings.
D. Body substance isolation should be observed whenever contact with blood and blood products can be reasonably anticipated.
E. Impaled objects should generally be left in place unless the airway cannot be controlled with them in place.
F. Evaluate carefully any tourniquet applied prior to arrival of EMS.
G. In general, prehospital personnel should not probe wounds or use hemostatic clamps.

II. History

Perform a focused history and physical exam with particular attention to:

A. Determine the mechanism of injury (what forces were involved).
B. Attempt to estimate the amount of blood loss.
C. Is the patient experiencing chest pain, trouble breathing, or becoming faint or lightheaded?
D. Obtain the past medical history:
   1. Has the patient had high blood pressure, diabetes, had a stroke, suffered angina, had a heart attack?
   2. Does the patient have respiratory disease such as chronic bronchitis, pneumonia, COPD, emphysema, asthma?
   3. Has the patient had any surgeries in the past?
E. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam.
C. Obtain a complete set of vital signs.
D. Assess for signs of shock.
E. Note wounds.

IV. Treatment

{If hypotension present, follow **hypotension protocol**}
{If major trauma present, follow **major multiple system trauma protocol**}

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.
C. Apply direct pressure to the wound using your gloved hand over sterile dressings if possible.
   1. If possible, elevate the wound site to a level above the heart if the wound is on an extremity.
   2. Apply a pressure bandage if possible.
   3. Should bleeding continue, apply additional dressings. Do not remove the dressing first applied to the wound.
   4. Should bleeding continue, apply pressure to the nearest pressure point.

5. If bleeding is coming from inside the ear, do not attempt to stop it.

D. Assess distal circulation and sensation.

E. If bleeding continues despite the above methods, apply a tourniquet if the wound is on an extremity.

F. ***For EMTs****- If signs of shock are present, seek medical direction regarding use of PASG.*

G. Give the patient nothing by mouth.

Intermediate and Paramedic

H. Secure IV access.

HYPERTENSION

I. General Considerations

A. Hypertension in itself is not the primary concern or focus; the problems resulting from the hypertension are the most concerning aspect.
B. If the blood pressure is lowered too much or too quickly, it may cause more problems than did the high blood pressure. It is rarely necessary to lower the blood pressure urgently.
C. Make certain that blood pressure determinations are done with the proper equipment (i.e., cuff size) and that the equipment is working properly.
D. Check the blood pressure in both arms, unless the patient has a dialysis access in an arm. Avoid taking blood pressures and gaining IV access in such an arm.

II. History

Perform a focused history and physical exam with particular attention to:

A. Determine the onset, progression and duration of the chief complaint and associated symptoms.
B. Is there chest discomfort, trouble breathing, headache, or loss of bodily function?
C. Obtain the past medical history.
D. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?
E. Is there any history of trauma (especially head trauma)?
F. Does the patient use alcohol or illicit drugs; if so, when was the last time?
G. Has the patient experienced a seizure?
H. Is there any abdominal or back pain?
I. If the patient is female:
    1. Determine when the last menstrual period was.
    2. Have menstrual periods been regular?
    3. Has there been any vaginal bleeding?
J. Does the patient have any kidney problems?

III. Physical Examination

A. Perform an initial assessment.
B. Perform a focused history and physical exam.
C. Obtain a baseline set of vital signs, including obtaining the blood pressure in both arms.
D. Assess the level of consciousness.
E. Assess the patient's neurological condition.

Paramedic

F. Assess the cardiac rhythm.

IV. Treatment

{If trouble breathing present, see **difficulty breathing** protocol}
{If arrhythmia/dysrhythmia present, see **arrhythmia/dysrhythmia** protocol}
{If chest pain present, see **chest pain** protocol}
{If altered level of consciousness present, see **altered level of consciousness** protocol}

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.

Intermediate

C. Secure IV access.

Paramedic

D Assess and monitor cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocol. If authorized by medical direction, obtain a 12-lead EKG.

E. *If medical direction agrees, administer furosemide, 40 - 80 mg slow IV push.*

F. *If medical direction agrees, administer nitroglycerin 0.4 mg (1 tablet) sublingually every 5 minutes or apply 1 to 2 inches of nitroglycerin paste topically* as long as blood pressure remains over 100 mm Hg.

G. If hypertension still persists, contact medical direction for an appropriate pharmacologic treatment as indicated.

I. General Consideration

A. The causes of hypotension are many and varied, but the initial approach to the patient should be the same.
B. Hypotension which comes on suddenly or quickly is frequently more concerning and catastrophic than hypotension which comes on slowly or gradually.
C. The primary focus remains on the ABCs with rapid movement to definitive care.

II. History

Perform a focused history and physical exam with particular attention to:

A. What are the patient's presenting symptoms?
B. Have the symptoms come on gradually or suddenly?
C. Has there been any associated pain or discomfort and where is it?
D. Has there been any fever or teeth chattering chills?
E. Has there been diarrhea or vomiting, especially with blood (coffee grounds vomitus or black, tarry stools)?
F. Does the past medical history include high blood pressure, cardiovascular disease, pulmonary disease, ulcers or intestinal bleeding?
G. Has there been any trauma?
H. Has the patient experienced lightheadedness or dizziness upon sitting or standing?
I. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?
J. Has the patient experienced any irregular heart action (palpitations)?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam.
C. Assess the patient's level of consciousness.
D. Assess the breath sounds if you are trained to do so.

Paramedic

E. Assess the cardiac rhythm.

IV. Treatment

{If patient's mental status is depressed, follow the **altered level of consciousness** protocol.}

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.
C. Place the patient supine.
D. Monitor the vital signs frequently.
E. ***For EMTs-*** *If signs of shock are present, seek medical direction regarding use of PASG~~.~~*

Intermediate

F. Secure IV access.
G. Administer a fluid bolus if ordered by medical direction.

Paramedic

{Consider arrhythmias/dysrhythmias as causes of hypotension and refer to the appropriate **arrhythmias/dysrhythmias** protocol as necessary}

H. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols. If authorized by medical direction, obtain a 12-lead EKG.

I. *Initiate infusion of dopamine if ordered by medical direction.*

MAJOR MULTIPLE SYSTEM TRAUMA

I. General Considerations

A. Major trauma often cannot be stabilized or well managed in the field and requires prompt surgical intervention.

B. Scene times should be kept to a minimum. Accordingly, much of the physical exam and initiation of treatment such as intravenous lines should be carried out in the ambulance en route to the hospital.

C. Rapid extrication (placement of a cervical collar, if indicated, and movement onto a long board) should be carried out expeditiously.

D. Always assess the mechanism of injury.

E. If the patient sustained penetrating trauma (e.g., stab or gunshot wound), look for exit wound.

F. Patients with the following conditions must be expeditiously moved into the trauma system to maximize the likelihood of survival. On scene field measures should be limited to the initial assessment, rapid trauma assessment, BLS, CPR, placement of a cervical collar if indicated, placement on a long board, rapid extrication if indicated, airway maneuvers as outlined below, and chest injury management as outlined below. Other treatment and assessment should be carried out en route to the hospital.

1. Cardiac arrest secondary to trauma
2. Suspected pericardial tamponade post trauma
3. Major chest injury-
   a. suspected tension pneumothorax post trauma
   b. open or sucking chest wound
   c. suspected flail chest
4. Severe blood loss
5. Uncontrollable hemorrhage
6. Rapidly distending abdomen
7. Severe facial injury with airway compromise
8. Unconsciousness post trauma
9. Shock post trauma

II. History

Perform a focused history and physical exam with particular attention to:

A. Mechanism of injury

B. Speed

C. Restraints (e.g., lap and shoulder belts, car seat)

D. Protective devices (e.g., helmet, air bags)

E. Loss of consciousness

III. Physical Examination

A. Perform an initial assessment.

B. Perform a focused history and physical exam with particular attention to:

1. Inspect the head:
   a. Are raccoon's eyes or bruising behind the ear noted?
   b. Is the head normal appearing or crushed?
   c. Are the pupils round, regular and reactive to light?
   d. Is there fluid from the ears or nose?
2. Inspect the neck:
   a. Are there signs of cervical deformity or tenderness over the spine?
   b. Is the trachea midline?
   c. Are the neck veins distended?

d. Are there signs of trauma/bruising/puncture wounds?
e. Is there a feeling of Rice Krispies® under the skin (subcutaneous emphysema)?
f. Does there appear to be an expanding hematoma?
g. Does the voice box appear crushed?
h. Can the patient speak? Does it sound normal?

3. Inspect the chest:
   a. Are there signs of trauma - bruising, puncture wounds?
   b. Does the chest rise symmetrically?
   c. Is the patient breathing with only the diaphragm?
   d. Is there evidence of a flail segment (paradoxical movement)?
   e. Is there a feeling of Rice Krispies® under the skin (subcutaneous emphysema)?
   f. Assess the breath sounds if trained to do so.
   g. Are cardiac tones muffled?
4. Examine the abdomen:
   a. Are there signs of bruising or puncture wounds?
   b. Does it appear distended?
   c. Does light touch cause the patient pain anywhere?
5. Examine the pelvis:
   a. Are there signs of bruising or puncture wounds?
   b. Is there pain, movement or instability with gentle pelvic compression?
6. Examine the back and spine:
   a. Are there signs of bruising or puncture wounds?
   b. Is there deformity or tenderness?
7. Examine the extremities:
   a. Is the patient able to move all extremities?
   b. Is there evidence of posturing (abnormal flexion or abnormal extension)?
   c. Do the extremities have good distal pulses, capillary refill and can the patient feel you touch them?
   d. Are there signs of trauma (e.g., point tenderness, swelling, deformity, angulation)?
8. If penetrating trauma, type and size of weapon.
9. Inspect the surroundings quickly before departing the scene.

Paramedic

A. Monitor the cardiac rhythm. If the patient is in cardiac arrest after blunt trauma and asystole is confirmed in more than one lead, medical direction may order no further treatment.

IV. Treatment

Basic

A. Establish an airway, maintain as indicated with regard to possible spinal injury, suction as needed.
B. Administer high concentration oxygen.
C. Place a cervical collar on patient.
D. Control external hemorrhage.

E. Chest wound management:
   1. If a flail segment is causing respiratory compromise, place IV fluid bag, sand bag or appropriate material on flail segment.
   2. If open or sucking chest wound is noted, apply 3 sided occlusive dressing.

F. Place patient on a backboard. *If signs of shock are present, seek medical direction regarding use of PASG.*

G. If available, EMTs may inflate PASG as a splint (i.e., to splinting pressure) for a fractured pelvis or multiple lower extremity fractures by standing order.

H. Splint injured extremities while en route to the hospital.

Intermediate

I. Initiate 2 large bore (18 gauge or larger) IVs en route and infuse up to 1000 cc of crystalloid solution in an adult if signs of shock are present (restlessness, anxiety, confusion, BP <90 mm Hg systolic with tachycardia > 120 beats/minute) *then seek medical direction for the infusion rate and consideration of further fluid administration*. In a child, infuse 20 cc/kg of body weight of a crystalloid solution and re-evaluate.

J. **If** the patient is **in respiratory arrest,** secure the airway using an advanced airway device with in-line stabilization.

Paramedic

K. As needed, intubate endotracheally with in-line stabilization or *perform cricothyrotomy per medical direction.*

L. *If tension pneumothorax is suspected, medical direction may order needle chest decompression.*

M. If an IV line cannot be established readily in a child, initiate an intraosseous (IO) infusion.

N. Consider use of nitrous oxide or narcotic pain management of medical direction's choice.

I. General Considerations

A. The causes of nausea and vomiting are many and varied.
B. Primary concern focuses on the airway and its maintenance.
C. Secondary concern focuses on adequacy of perfusion.

II. History

Perform a focused history and physical exam with particular attention to:

A. Determine the onset, timing, progression and duration of the nausea and vomiting.
B. What other symptoms does the patient relate (fever, chest pain, trouble breathing, abdominal pain, diarrhea, etc.)?
C. If the patient relates that there is pain, where is it (head, chest, abdomen, eye, etc).?
D. When did the patient last eat? What was it?
E. Has the patient had any surgeries in the past?
F. When was the last bowel movement? Was there any blood or black material in it? Did the vomitus appear bloody or like coffee grounds?
G. Obtain the past medical history including hypertension, diabetes, coronary disease and strokes.
H. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?
I. Is there a history of trauma?
J. If the patient is female:
    1. Could the patient be pregnant?
    2. Determine when the last menstrual period was.
    3. Have menstrual periods been regular?
    4. Has there been any vaginal bleeding?
K. Has the patient noted a headache?
L. Has there been any dizziness? or change in vision?
M. Has there been any exposure to carbon monoxide? Is anyone else ill?
N. Have there been any cold or flu like symptoms? (e.g., congestion, cough, fever, body aching?
O. Does the patient drink alcohol or use over the counter medications, especially aspirin and ibuprofen?
P. Does the patient note abdominal bloating or distension?
Q. Has the patient overdosed on any substances?
R. What treatment has been initiated?

III. Physical Examination

A. Perform an initial assessment.
B. Perform a focused history and physical exam.
C. Assess the patient's neurological condition.
D. Inspect the environment (i.e., could harmful gases be present? Are there bees or allergic sources nearby?)
E. Inspect the vomitus/stools.

Paramedic

F. Assess the cardiac rhythm.

IV. Treatment

{If any other condition is noted for which a protocol is available, follow that protocol.}

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Consider administering high concentration oxygen.
C. Transport in a position of comfort if possible. Transport patient on the left side if there is a depressed level of consciousness but respirations are adequate.

Intermediate

D. Secure IV access. Obtain blood specimen for glucose determination at the hospital if the receiving hospital desires it.
E. Perform capillary blood glucose determination. Do not use blood from IV start.
F. *If patient's blood glucose level is <80 mg/dl, administer dextrose 50% 25 gm IV in a secure vein for an adult* (standing order for paramedics) *or 0.5 - 1 gm/kg for a child.*

Paramedic

G. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.

NOSEBLEED (EPISTAXIS)

I. General Considerations

A. The primary concern is maintenance of an adequate airway and ventilation. Swallowed blood frequently causes nausea, so anticipate vomiting and the potential for aspiration.
B. Consider traumatic causes and protect the spine as indicated.
C. Consider hypertension as a factor.

II. History

Perform a focused history and physical exam with particular attention to:

A. Determine onset, progression and duration of the nosebleed.
B. Is there co-existing chest pain, trouble breathing, headache?
C. Does the patient have high blood pressure, cardiovascular disease, nosebleeds, or bleeding from other areas (e.g., gums, skin bruises, rectal or urinary bleeding)?
D. Is there history of trauma (force to face or nose picking)?
E. Has the patient experienced lightheadedness or dizziness upon sitting or standing?
F. Is patient taking medications such as aspirin, Coumadin, steroids, or medication to control blood pressure?
G. Has the patient inhaled medications or drugs through the nose?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam with particular attention to:
    1. Examine the skin - is there any bruising?
    2. Is there evidence of head or neck trauma?

IV. Treatment

Basic

A. Establish an airway, maintain as indicated; suction as needed.
B. Administer high concentration oxygen.
C. If the nose is still bleeding, have the patient blow his nose to remove clots and then pinch the nostrils together.
D. Transport in position of comfort (often sitting up, leaning forward).

Intermediate

E. Secure IV access if still bleeding.

Paramedic

F. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.
G. If hypertensive, seek medical direction for consideration of either or both:
    1. *Nitroglycerin 0.4 mg sublingual*
    2. *Furosemide 20 - 80 mg slow IV push*.

POISONING AND OVERDOSE (including alcohol)

I. General Considerations

A. While most substances are potential poisons, few have specific antidotes or treatments, and the overall approach and basic treatment principles apply for all.
B. During scene size up, identify potential hazards and take appropriate protective measures. Initiate the response of other agencies as needed.
C. Remove the patient from a dangerous environment as soon as possible. It is important not to become exposed to chemicals and poisons yourself.
D. Antidotes are rare and most critical poisoned patients cannot be stabilized in the field.
E. Information obtained at the scene, including the identify of the poison, the amount taken, and the circumstances surrounding the poisoning may greatly benefit patient care in the hospital.
F. Activated charcoal has replaced syrup of ipecac in the management of ingested poisonings.
G. Since poisoning is not always obvious, it needs to be considered in all patients with altered level of consciousness, bizarre behavior, apparent intoxication, depression, coma, trauma, or prior history of suicide attempts.
H. If the patient's clothing is contaminated, it should be removed and appropriately dealt with.
I. Flushing with copious amounts of water is generally indicated for skin exposures.

II. History

Perform a focused history and physical exam with particular attention to:

A. What is involved?
   1. Substance - bring containers, contents, emesis, etc. to ED.
   2. Co-ingestions - Have other drugs or medications been taken, especially in the past 24 hours, including alcohol and illicit drugs?
   3. Route - orally, snorting, inhalation, injection, skin exposure, rectal exposure.
   4. Amount - total dose, by one or multiple timed doses, etc.
   5. Time - of ingestion and of onset of clinical signs and symptoms.
   6. Symptoms - including order and timing of development.
   7. Treatment - vomiting, other medications, shower, etc.
   8. Other medical or traumatic problems - e.g., heart disease, diabetes, vehicular crash, fall, allergies, etc.
   9. Reason - suicidal, accidental, criminal - e.g. forced ingestion.

III. Physical Examination

A. Perform an initial assessment.
B. Perform a focused history and physical exam, including:
   1. Respiratory pattern.
   2. Eye signs (pupillary size and reactivity, involuntary eye movement, etc).
   3. Odor (sweet, fruity, acetone).
   4. Evidence of other medical or traumatic problems.
   5. Skin appearance (burns, chafing, etc.).

IV. Treatment

{If diminished level of consciousness, see **altered level of consciousness** protocol}

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.
C. Treat other urgent medical or traumatic problems according to their priority.
D. Do not delay transport.

E. *Contact medical direction (not a poison center) as soon as reasonably possible. Seek on-line direction regarding treatment options such as activated charcoal (1 gm/kg of body weight).*
F. If indicated, minimize patient exposure to chemicals and poisons and flush with water if indicated by the exposure.

Intermediate
G. *Secure IV access if ordered by medical direction.*
H. *If an opiate overdose is suspected, contact medical direction for an order to administer 2 mg of naloxone intravenously, subcutaneously or intranasally to an adult* (standing order for paramedics), *0.01 mg/kg for a child.*

Paramedic
I. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.
J. *Contact medical direction for advice or orders concerning specific poisonings and their antidotes.*

PREGNANCY RELATED EMERGENCIES AND VAGINAL BLEEDING

I. General Considerations

A. It must be remembered that one is dealing with two lives (at least), not one.
B. The enlarged uterus, if allowed to rest on the inferior vena cava, will limit the return of blood to the mother's heart and thus compromise the baby. This can be prevented by positioning the mother on her left side if possible.
C. If presenting with potential for multiple births, consider summoning additional resources (vehicles, personnel, etc.).

II. History

Perform a focused history and physical exam with particular attention to:

A. How many pregnancies has the patient had, including any abortions or miscarriages?
B. When was the last normal menstrual period or what is the patient's due date?
C. Has the patient ever had an ectopic pregnancy or pelvic inflammatory disease?
D. Have there been any complications with this or prior pregnancies such as high blood pressure, seizures, eclampsia, diabetes, cesarean section, etc?
E. Is the patient experiencing any pain or contractions?
F. If the patient is having contractions, when did they begin, how frequent are they, and how long do they last?
G. Has there been any vaginal discharge or bleeding?
H. Has there been any trauma?
I. Has the patient felt the baby moving? When was the last time?
J. Obtain the past medical history, including problems of high blood pressure, diabetes, pulmonary problems, cardiovascular disease.
K. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?
L. Does the patient have any known medication allergies?
M. What position was the baby in when last checked by a medical professional?
N. Is the patient experiencing headaches, nausea or vomiting?
O. Is there a possibility of multiple births? If so, are other transportation resources needed?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam with particular attention to:
    1. Is there evidence of ankle or leg edema?
    2. Is there abdominal rigidity or tenderness to light touch?
    3. Assess the deep tendon reflexes if trained to do so.
C. Is there any evidence of vaginal bleeding, discharge or crowning?

IV. Treatment

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.
C. Place the patient on her left side.

PREGNANCY RELATED EMERGENCIES AND VAGINAL BLEEDING

For expectant childbirth

Basic

A. Check for crowning. If there are no signs of crowning, proceed with transport.
B. If crowning is present, prepare for delivery.
C. Place sterile drapes about the perineum.
D. Prevent explosive delivery of the baby's head by placing your gloved hand on the baby's head.
E. Once the head has emerged from the birth canal, suction the mouth, then the nostrils.
F. Support the head. Check to be certain the umbilical cord is not wrapped about the neck. Unwrap it if necessary.
G. Support delivery of the body. Hold the child lower than the mother if possible and dry the baby off.
H. Assess the baby's ABCs and proceed as indicated.
I. Place the umbilical clamps approximately 8 and 10 inches from the baby.
J. Massage the mother's lower abdomen.
K. Transport, maintaining baby's warmth.

Intermediate and Paramedic

L. Secure IV access if time permits.

For Abnormal Presentation

Basic

(Breech, footling, hand, prolapsed cord, placenta previa)

A. *Contact medical direction for advice and prepare for immediate transport.*

For Post Delivery Hemorrhage

Basic

A. Cover vaginal area with sterile dressing.
B. Massage mother's lower abdomen.

Intermediate and Paramedic

C. *Secure IV access and administer IV fluids per medical direction.*

For Vaginal Bleeding (Non-expectant childbirth)

Basic

A. Cover the vaginal area with sterile dressing.
B. Save any vaginal discharge or products of conception.

Intermediate and Paramedic

C. *Secure IV access and administer IV fluids per medical direction.*

PREGNANCY RELATED EMERGENCIES AND VAGINAL BLEEDING

For Seizures

Basic

A. Follow seizure treatment protocol.

Intermediate

B. Secure IV access.

Paramedic

C. *In the presence of third trimester pregnancy, if ordered by medical direction, consider 4 gm magnesium sulfate slow IV push over 5 minutes.*

D. *If ordered by medical direction, administer benzodiazepine.*

SEIZURES

I. General Considerations

A. Move potentially harmful objects away from the patient.
B. Do not force anything into the patient's mouth; it could obstruct the airway and do harm.
C. Trauma to the tongue seldom causes serious problems.
D. Broken teeth and/or foreign bodies may obstruct the airway.
E. High concentration oxygen is appropriate.
F. Patients who continue to seize require respiratory support and prompt transport.
G. Heart arrhythmias are a common cause of seizures in patients over the age of 50.

II. History

Perform a focused history and physical exam with particular attention to:

A. Is there a history of seizures? If so, when was the last seizure?
B. Is there a history of head trauma? (including any in the last month)
C. Is the patient taking any medications for seizures? Has the patient taken that medication as prescribed?
D. Obtain a past medical history including:
    1. Does the patient have any medical illnesses and what treatments or medications are prescribed?
    2. Is the patient diabetic and have they taken their insulin or pills and when did they last eat?
    3. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications) and does the patient drink alcohol?
E. What events and/or complaints preceded the seizure? (i.e., what was the patient doing prior to the seizure and did they complain of headache, fever, chest pain, or palpitations; has there been nausea, vomiting, diarrhea, or choking?)
F. Describe the seizure:
    1. Where did it start (what part of the body)? Did it involve the whole body?
    2. How long did it last?
    3. How many seizures have there been today or in a row?
    4. If this seizure was different from past seizures, how was it different?
    5. Did the patient regain consciousness between seizures?
    6. Did the patient say anything or cry out before or during the seizure?
    7. Did the patient lose control of bowel or bladder function (i.e., incontinence)?
G. Is the patient known to use marijuana, cocaine, heroin or any other illicit substances?
H. Was any "treatment" done prior to your arrival?

III. Physical Examination

A. Perform an initial assessment.
B. Perform a focused history and physical exam with particular attention to:
    1. Is there an injury or a foreign body in the mouth?
    2. Examine the skin for bruises.
    3. Is there evidence of head or neck trauma?
    4. Is there evidence of a hip or shoulder dislocation?
    5. Is there evidence of incontinence?
C. Assess the patient's neurological condition.
    1. Check pupils for size, symmetry, reactivity.
    2. Assess motor function. Is the patient moving all four extremities? Is there equal grip strength? Is there posturing?
    3. Is sensation to touch intact in all four extremities?
    4. What is the last thing the patient can recall?

D. Inspect the surroundings.
   1. Check for pill bottles, syringes, etc. (bring with patient).
   2. Note odor in house, unvented heaters, etc.

Paramedic

E. Assess the cardiac rhythm.

IV. Treatment

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.
C. Transport the patient, preferably on the left side.

Intermediate

D. For unconscious or seizing patients:
   1. Secure IV access.
   2. Obtain blood specimen for glucose determination at the hospital if the receiving hospital desires it. (Note: If approved by local medical advisor, perform capillary blood glucose determination. Do not use blood from IV start.).
   3. *Contact medical direction if patient is a known diabetic, especially if they have not eaten recently (or if glucose determination is < 80 mg/dl): administer dextrose 25 gm IV for an adult* (standing order for paramedics), *0.5 - 1 gm/kg for a child.*
   4. *If medical direction orders it, administer naloxone 2 mg intravenously, subcutaneously or intranasally for an adult* (standing order for paramedics), *0.01 mg/kg for a child.* The patient may become combative and require restraint.
   5. ▲ *If IV access cannot be secured and the patient's blood glucose level is <80 mg/dl, administer 1 mg glucagon IM.*
   6. ▲ *If ordered by medical direction, admininster thiamine 100 mg IV.*

Paramedic

E. Assess and monitor the cardiac rhythm; treat arrhythmias/dysrhythmias per applicable protocols.
F. *If ordered by medical direction, administer a benzodiazepine, using appropriate dose and route.*
G. If IV access cannot be secured and the patient's blood glucose level is <80 mg/dl, administer 1 mg glucagon IM.
H. *In the presence of third trimester pregnancy, if ordered by medical direction, consider 4 gm magnesium sulfate slow IV push over 5 minutes.*

SEXUAL ASSAULT

I. General Considerations

A. Encourage the patient to be treated at a medical care facility. Sexual assault is a medical emergency.
B. Seek only that information that is required to adequately treat the patient. Do not ask unnecessary questions concerning the incident.
C. A secondary exam must be performed to identify additional injuries.
D. Injuries of a non-sexual nature may have occurred and should also be treated.
E. Be careful to preserve evidence where possible. Do not remove any clothing unless necessary to treat the patient. Do not wash the patient.
F. It may be helpful to have a crew member of the same sex as the patient provide most contact.
G. Your involvement in this patient's care may later become part of the legal process. Good documentation of all findings is essential.
H. EMS personnel are reminded of their responsibility to report incidents of abuse/neglect to children and elderly patients. See Abuse/Neglect protocol.

II. History

Perform a focused history and physical exam with particular attention to:

A. Ask the patient to describe any complaints of injury.
B. Was there a loss of consciousness?
C. Obtain a history of medical problems?
D. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?

III. Physical Examination

A. Perform an initial assessment.
B. Perform a focused history and physical exam.

IV. Treatment

{If other conditions are present, follow the appropriate protocol(s).}

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Control external bleeding.
C. Administer high concentration oxygen if indicated.
D. Treat injuries.
E. Reassure the patient.

SKELETAL INJURIES (Fractures, Dislocations, Sprains, Strains)

I. General Considerations

A. While generally not life threatening, musculoskeletal injuries are important. If they are not properly cared for, long term disability can result.
B. Treatments should not worsen the injury. Proper selection of immobilizing devices and adequate padding are important.
C. Where any suspicion of a fracture, strain, sprain or dislocation exists, the affected part should be immobilized.
D. It is important to determine the distal pulse, sensation, capillary refill and ability to move injured areas both before and after splinting.
E. Fractures of the femurs, the pelvis and long bones can be associated with significant blood loss. Splinting these injured areas may not only prevent further injury, but may help to control blood loss.
F. If circulation distal to a fracture is compromised, or if adequate immobilization cannot be accomplished in the position in which the patient is found, gentle movement to a more anatomical position is indicated.
G. Should bone ends be protruding through the skin, no attempt should be made to replace them into the skin.
H. While cold application may be helpful, be careful not to cause a cold injury in the treatment.
I. Be sure not to overlook other associated injuries.

II. History

Perform a focused history and physical exam with particular attention to:

A. Ask the patient to describe how and when the injury occurred (what was the mechanism of injury? What forces were involved?).
B. Determine if the patient lost consciousness and for how long.
C. Does the patient have any pain, numbness or tingling anywhere?
D. Has the patient moved himself or been moved?
E. Is the patient chemically impaired? (alcohol, drugs, etc)
F. Has the patient ever injured, fractured or dislocated this part before?
G. Obtain a past medical history.
H. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam.
C. Note any swelling, discoloration, joint tenderness, crepitation, abnormal movement.
D. Carefully determine distal capillary refill, pulse, sensation, and movement.

IV. Treatment

{If other conditions are present, follow the appropriate protocol(s).}

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Consider administration of high concentration oxygen.
C. Immobilize the affected part and joints above and below if possible. If bone ends are

protruding from the skin, cover them with a moistened, sterile dressing prior to splinting.

D. Monitor distal sensation, capillary refill and pulses before and after splinting.

E. *If the patient complains of pain or tenderness in the pelvis or has multiple lower extremity fractures, EMTs should seek medical direction regarding use of PASG.*

Intermediate

F. Secure IV access for suspected fractures of pelvis, femur or when an open fracture exists.

Paramedic

G. *For isolated skeletal injury associated with significant pain,* consider use of nitrous oxide or narcotic pain management of medical direction's choice.

SPINE TRAUMA

I. General Considerations

A. Whenever there has been multi-system trauma, or trauma about the head and neck, spine trauma should be assumed to be present until proven otherwise in the emergency department.
B. Be prepared to tip the entire spine board on its side should the patient vomit (the patient must be securely fastened to the board).
C. If the patient has a high level cord injury, breathing may be solely by use of the diaphragm. This can be readily assessed by watching the chest and abdomen. Avoid further compromise of breathing: do not place the patient in Trendelenburg (foot of board elevated) position.
D. While shock may be caused by spinal cord injury, always consider that internal bleeding may be present if shock is severe.
E. Respiratory problems are common with potential spine injury and interventions need to be carefully administered.
F. Pain in an alert patient may direct attention to the region of spinal trauma but absence of pain does not rule it out.
G. Any movement of any limb must be carefully noted and changes in the patient's condition communicated to the emergency department staff.

II. History

Perform a focused history and physical exam with particular attention to:

A. Does the patient have any pain, numbness or tingling anywhere?
B. Has this patient lost consciousness?
C. What time did the injury occur?
D. What was the mechanism of injury? What forces were involved?
E. Is the patient chemically impaired? (alcohol, drugs, etc.)
F. Has the patient moved himself or been moved?
G. Obtain the past medical history, including problems of high blood pressure, diabetes, pulmonary problems, cardiovascular disease.
H. What medications has the patient been, or is the patient supposed to be, taking (including over the counter medications)?

III. Physical Exam

A. Perform an initial assessment.
B. Perform a focused history and physical exam.
C. Is the patient breathing only with the diaphragm?
D. Assess the patient's neurological condition.
    1. Check pupils for size, symmetry, reactivity.
    2. Assess motor function. Is the patient moving all four extremities? Is there equal grip strength? Is there posturing?
    3. Is sensation to touch intact in all four extremities?
E. Are there signs of trauma which might have caused altered mental status/coma (e.g., head trauma, hematomas, raccoon eyes, Battle's Sign)?
F. Are there other injuries (e.g., hip or wrist fracture from fall)?

IV. Treatment

{If other conditions are present, follow the appropriate protocol(s).}

Basic

A. Establish an airway, maintain as indicated, suction as needed.

B. Consider high concentration oxygen.
C. Immobilize the spine.

Intermediate and Paramedic
D. Secure IV access.

Paramedic
E. Consider use of nitrous oxide or narcotic pain management of medical direction's choice.

SUDDEN INFANT DEATH SYNDROME (SIDS)

I. General Considerations

A. SIDS is the sudden and unexpected death of an apparently healthy infant which remains unexplained after the performance of a complete case study and autopsy.
B. Infants in cardiac arrest should generally receive resuscitation efforts. However, local medical control may wish to abbreviate/truncate resuscitation in some circumstances.
C. Prehospital personnel should pay attention to the emotional concerns of the parents or caregivers.
D. Notify local law enforcement officials as soon as time permits.

II. History

Perform a focused history and physical exam with particular attention to:

A. When was the infant discovered?
B. Have there been any recent illnesses?
C. What is the infant's general health?
D. Who discovered the infant, and what actions did that person take?
E. When was the infant put to bed?
F. In what position was the infant discovered?

III. Physical Exam

A. Evaluate the:
    1. General physical appearance of the infant
    2. Position in which the infant was found
    3. Appearance of the room/house in which the infant was found
    4. Emotional status of the parent or caregivers
B. Perform an initial assessment.
C. Perform a focused history and physical exam.
D. Note any signs of trauma.

IV. Treatment

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Follow **cardiac arrest** protocol.
C. Provide psychological first aid for parent or caregiver if possible.

Paramedic

D. Initiate an intraosseous (IO) line.
E. Follow the appropriate **arrhythmia/dysrhythmia** protocol. *Consult on-line medical direction for specific medication doses.*

I. General Considerations

A. The causes of weakness are many; easily treated causes must be readily sought and corrected.

B. The patient's level of consciousness, combined with an assessment of the patient's perfusion (pulse, blood pressure, skin condition), indicates the urgency of the transport.

C. Patients who cannot meet life's daily needs (get up to wash, eat, eliminate) and have no assistance at home should be taken to the hospital by ambulance.

II. History

Perform a focused history and physical exam with particular attention to:

A. When was the patient last completely well?

B. Determine the onset, progression and duration of symptoms.

C. Obtain a past medical history including alcohol use, diabetes, epilepsy, hypertension, cardiac disease, lung disease, stroke, cancer.

D. What medications has the patient been or is the patient supposed to be taking (including over the counter medication)?

E. Is there a history of injury or insult (trauma, inhalation, choking, aspiration, etc.)?

F. Has there been any: fever, cough, rash, urinary burning or frequent urination, yellowing of the skin, seizures, headaches, nausea, vomiting, diarrhea, trouble breathing?

G. Has there been any blood noted in stools or have they been black?

H. Has the patient been urinating?

I. Has the weakness affected only part of the body? Which part?

J. Does the patient have or has the patient had any pain anywhere?

K. Has the patient been eating?

L. Is anyone else at home ill?

M. Does light bother the patient's eyes?

N. Is the patient's neck stiff?

III. Physical Examination

A. Perform an initial assessment with special attention to the adequacy of ventilation.

B. Perform a focused history and physical exam.

C. Assess the breath sounds if you are trained to do so.
   1. Are they present and equal right and left?
   2. Are there rales, rhonchi (crackles), or wheezes?

D. Assess the skin.
   1. Is it warm, hot or cold?
   2. Is it dry or moist?
   3. Note any color changes (e.g., pale, cyanotic, red).
   4. Is there bruising or evidence of injury?

E. Assess the patient for signs of peripheral edema.
   1. Are the ankles swollen?
   2. Is there edema over the lower back and sacrum area?

F. Assess the level of consciousness.

G. Assess the patient's neurological condition.
   1. Check pupils for size, symmetry, reactivity.
   2. Assess motor function. Is the patient moving all four extremities? Is there equal grip strength? Is there posturing?
   3. Is sensation to touch intact in all four extremities?

H. Is there an unusual breath odor (alcohol, fruity/acetone)?

I. Inspect the surroundings.
   1. Check for pill bottles, syringes, etc. (bring with the patient).

2. Note odor in the house, unvented heaters, etc.

J. Assess the cardiac rhythm if trained to do so.

IV. Treatment

{If other conditions are present, follow the appropriate protocol(s).}

Basic

A. Establish an airway, maintain as indicated, suction as needed.
B. Administer high concentration oxygen.
C. Transport the patient in a position of comfort.

Intermediate

D. Secure IV access. Obtain blood specimen for glucose determination at the hospital if the receiving hospital desires it.
E. Perform capillary blood glucose determination.
F. *If patient's blood glucose level is <80 mg/dl, administer dextrose 50% 25 gm IV in a secure vein for an adult* (standing order for paramedics) *or 0.5 - 1 gm/kg for a child.*
G. ▲ *Administer thiamine 100 mg IV if dextrose is to be administered.*
H. ▲ *If IV access cannot be secured, administer 1 mg glucagon IM*

Paramedic

I. Monitor the cardiac rhythm and treat per applicable arrhythmia/dysrhythmia protocol. *If authorized by medical direction, obtain a 12-lead EKG.*